



THE IMPERIAL ENCYCLOPEDIA AND DICTIONARY

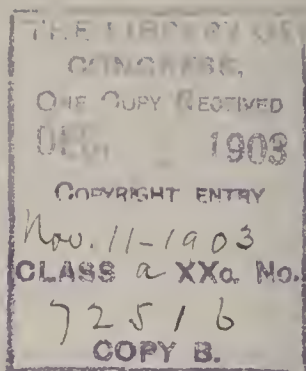
A LIBRARY OF UNIVERSAL
KNOWLEDGE AND AN UN-
ABRIDGED DICTIONARY OF
THE ENGLISH LANGUAGE
UNDER ONE ALPHABET

IN FORTY VOLUMES

VOLUME 9
CLONES—CORSAIR

NEW YORK HENRY G. ALLEN & COMPANY

AE5
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SCHEME OF SOUND SYMBOLS

FOR THE PRONUNCIATION OF WORDS.

Note.—(-) is the mark dividing words respelt phonetically into syllables; ('), the accent indicating on which syllable or syllables the accent or stress of the voice is to be placed.

Sound-symbols employed in Respelling.	Representing the Sounds as exemplified in the Words.	Words respelt with Sound-symbols and Marks for Pronunciation.
<i>ā</i> ...	mate, fate, fail, aye.....	<i>māt, fāt, fāl, ā.</i>
<i>ă</i> ...	mat, fat.....	<i>măt, făt.</i>
<i>â</i> ...	far, calm, father.....	<i>fâr, kâm, fá'thēr.</i>
<i>ä</i> ...	care, fair.....	<i>cär, fär.</i>
<i>aw</i> ...	fall, laud, law.....	<i>fawl, lawd, law.</i>
<i>ē</i> ...	mete, meat, feet, free.....	<i>mēt, mēt, fēt, frē.</i>
<i>ě</i> ...	met, bed.....	<i>mět, béd.</i>
<i>ê</i> ...	her, stir, heard, cur.....	<i>hēr, stēr, hêrd, kēr.</i>
<i>î</i> ...	pine, ply, height.....	<i>pīn, plī, hīt.</i>
<i>ï</i> ...	pin, nymph, ability.....	<i>pīn, nĭmf, ä-bĭl'ï-ř.</i>
<i>ō</i> ...	note, toll, soul.....	<i>nōt, tōl, sōl.</i>
<i>ö</i> ...	not, plot.....	<i>nöt, plöt.</i>
<i>ô</i> ...	move, smooth.....	<i>môv, smôth.</i>
<i>ö</i> ...	Goethe (similar to <i>e</i> in her)...	<i>gö'tēh.</i>
<i>ow</i> ...	noun, bough, cow.....	<i>noun, bou kōw.</i>
<i>oy</i> ...	boy, boil.....	<i>boy, boyl.</i>
<i>û</i> ...	pure, dew, few.....	<i>pūr, dū, fū.</i>
<i>ũ</i> ...	bud, come, tough.....	<i>būd, kũm, tũf.</i>
<i>ú</i> ...	full, push, good.....	<i>fúl, pũsh, gúd.</i>
<i>ü</i> ...	French plume, Scotch guid.....	<i>plũm, güd.</i>
<i>ch</i> ...	chair, match.....	<i>chär, mäch.</i>
<i>ch</i> ...	German buch, Heidelberg, Scotch loch (guttural).....	<i>bóch, hĭ'del-bĕrch, löch.</i>
<i>g</i>	game, go, gun.....	<i>gām, gō, gũn.</i>
<i>j</i>	judge, gem, gin.....	<i>jűj, jĕm, jĭn.</i>
<i>k</i> ...	king, cat, cot, cut.....	<i>kĭng, kăt, kôt, kűt.</i>
<i>s</i> ...	sit, scene, cell, city, cypress.....	<i>sĭt, sĕn, sĕl, sĭt'ĭ, sĭ'prĕe.</i>
<i>sh</i> ...	shun, ambition.....	<i>shűn, äm-bĭsh'űn.</i>
<i>th</i> ...	thing, breath.....	<i>thűng, brĕth.</i>
<i>th</i> ...	though, breathe.....	<i>thō, brĕth.</i>
<i>z</i>	zeal, maze, muse.....	<i>zĕl, māz, mūz.</i>
<i>zh</i> ...	azure, vision.....	<i>ăzh'er, vĭzh'űn.</i>

ABBREVIATIONS USED IN THIS WORK.

a., or adj.....adjective.	BBritannic.
A. B.....Bachelor of Arts.	b.....born.
abbr.....abbreviation, abbreviated.	Ba.....Barium.
abl.....ablative.	BartBaronet.
Abp.....Archbishop.	BavBavarian dialect.
abt.....about.	bl., bbl.....barrel, barrels.
AcadAcademy.	B. C.....before Christ.
acc.....accusative.	B. C. L... Bachelor of Civil Law.
act.....active.	B. D.....Bachelor of Divinity.
A. D.....in the year of our Lord.	bef.....before.
ad. or adv..adverb.	Belg.....Belgic.
aftafter.	Bi.Bismuth.
AdjtAdjutant.	biog.....biography, biographical.
Adm.....Admiral.	biol.....biology.
Ag.....Silver (Argentum).	B. L.....Bachelor of Laws.
agri.....agriculture.	Bohem.Bohemian.
Al.....Aluminium.	bot.....botany, botanical.
AlaAlabama.	Bp.....Bishop.
algalgebra.	Br.....Bromine.
A. M.....before noon.	Braz.....Brazilian.
A. M.....Master of Arts.	BrigBrigadier.
Am.....Amos.	Brit.....British, Britannica.
Amer....America, American.	bro.....brother.
anatanatomy, anatomical.	Bulg.....Bulgarian.
anc.....ancient, anciently.	bush.....bushel, bushels.
An. M.....in the year of the world.	C.....Carbon.
anon.....anonymous.	c.....century.
antiq.....antiquity, antiquities.	c.city.
aor.....aorist, aoristic.	Ca... ..Calcium.
AprApril.	Cal.California.
Ar.....Arabic.	Camb.....Cambridge.
arch.....architecture.	Can.Canada.
archæol...archæology.	Cant.Canterbury.
arith.....arithmetic.	cap.....capital.
ArkArkansas.	Capt.Captain.
art.....article.	Card. ... Cardinal.
artil.....artillery.	carp.....carpentry.
AS. or A. Sax. Anglo-Saxon.	Catal.....Catalonian.
AsArsenic.	Cath.Catholic.
AssocAssociation.	caus.....causative.
asst.....assistant.	cav.....cavalry.
astrol.....astrology.	Cd.....Cadmium.
astron.....astronomy.	Ce.Cerium.
attor.....attorney.	Celt.Celtic.
at. wt.....atomic weight.	Chal.....Chaldee.
Au.....Gold (Aurum).	chem.....chemistry, chemical
A. U. C... in the year from the building of Rome.	chh.....church.
AugAugust.	Chin.....Chinese.
augaugmentative.	Chron.....Chronicles.
Aust....Austrian.	chron.....chronology.
A. V.....authorized version (of Bible), 1611.	Cl.Chlorine.
avoirç.....avoirdu pois.	Class.....Classical (= Greek and Latin).
B.....Boron.	Co.....Cobalt.
	Co.....Company.
	co.....county.
	cog.....cognate, cognate with.

ABBREVIATIONS.

Chal.....	Chaldee	diff.....	different, difference
chap.....	chapter	dim.....	diminutive
chem.....	chemistry, chemical	dist... ..	district
Chin.....	Chinese	distrib.. .	distributive
Chron.....	Chronicles	div.....	division
chron.....	chronology	doz.....	dozen
Cl.....	Chlorine	Dr.....	Doctor
Class.....	Classical [= Greek and Latin]	dr.....	dram, drams
Co.....	Cobalt	dram.....	dramatic
Co.....	Company	Dut. or D.....	Dutch
co....	county	dwt.....	pennyweight
cog.....	cognate [with]	dynam or	
Col.....	Colonel	dyn.....	dynamics
Col... ..	Colossians	E.....	Erbium
Coll.....	College	E. or e.....	East, -ern, -ward
colloq.....	colloquial	E. or Eng.....	English
Colo.....	Colorado	Eccl.....	Ecclesiastes
Com.....	Commodore	eccl. or	} ecclesiastical [af-
com.....	commerce, commer- cial	eccles....	
com.....	common	ed.....	edited, edition, edi- tor
comp.....	compare	e.g.....	for example [<i>ex</i> <i>gratia</i>]
comp.....	composition, com- pound	E. Ind. or	{ East Indies, East
compar....	comparative	E. I....	
conch.....	conchology	elect.....	electricity
cong.....	congress	Emp... ..	Emperor
Congl.....	Congregational	Encyc.....	Encyclopedia
conj.....	conjunction	Eng. or E.....	English
Conn or Ct.	Connecticut	engin.....	engineering
contr.....	contraction, con- tracted	entom....	entomology
Cop.....	Coptic	env. ext....	envoy extraordinary
Cor.....	Corinthians	ep.....	epistle
Corn.....	Cornish	Eph.....	Ephesians
corr.....	corresponding	Episc.....	Episcopal
Cr.....	Chromium	eq. or =....	equal, equals
crystal....	crystallography	equiv.....	equivalent
Cs.....	Cæsium	esp.....	especially
ct.....	cent	Est.....	Esther
Ct. or Conn.	Connecticut	estab.....	established
Cu.....	Copper [<i>Cuprum</i>]	Esthon....	Esthonian
cwt.....	a hundred weight	etc.....	and others like [<i>et</i> <i>cetera</i>]
Cyc.....	Cyclopedia	Eth.....	Ethiopic
D.....	Didymium	ethnog.....	ethnography
D. or Dut..	Dutch	ethnol.....	ethnology
d.....	died	et seq.....	and the following [<i>et sequentia</i>]
d. [l. s. d.]	peenny, pence	etym.....	etymology
Dan.....	Daniel	Eur.....	European
Dan.....	Danish	Ex.....	Exodus
dat.....	dative	exclam....	exclamation
dau.....	daughter	Ezek.....	Ezekiel
D. C.....	District of Columbia	Ezr.....	Ezra
d.C.L.....	Doctor of Civil [or Common] Law	F.....	Fluorine
D.D.....	Doctor of Divinity	F. or Fahr.	Fahrenheit
Dec.....	December	f. or fem...	feminine
dec.....	declension	F. or Fr....	French
def.....	definite, definition	fa.....	father
deg.....	degree, degrees	Fahr. or F.	Fahrenheit
Del.....	Delaware	far.....	farriery
del.....	delegate, delegates	Fe.....	Iron [<i>Ferrum</i>]
dem.....	democratic	Feb.....	February
dep.....	deputy	fem or f. .	feminine
dep.....	deponent	fig.....	figure, figuratively
dept.....	department	Fin.....	Finnish
deriv.....	derivation, deriva- tive	F.—L.....	French from Latin
Deut.....	Deuteronomy	Fla.....	Florida
dial.....	dialect, dialectal	Flem.....	Flemish
diam.....	diameter	for.....	foreign
Dic.....	Dictionary	fort.....	fortification
		Fr. or F....	French
		fr.....	from

ABBREVIATIONS.

freq.....frequentative	ind.....indicative
FrisFrisian	indefindefinite
ft.....foot, feet	Indo-Eur...Indo-European
fut..... future	inf.....infantry
G. or Ger...German	inf or infin.infinite
G.....Glucinium	instr.....instrument, -al
Ga.....Gallium	int... ..interest
Ga.....Georgia	intens.....intensive
GaelGaelic	interj. or
GalGalatians	int.....interjection
gal.....gallon	interrog...interrogative pro-
galv.....galvanism, galvanic	noun
gard.....gardening	
gen.....gender	intr. or
Gen.....General	intrans...intransitive
GenGenesis	Io... ..Iowa
gen..... genitive	Ir..... ..Iridium
Geno.....Genoese	Ir.....Irish
geog . . .geography	Iran.....Iranian
geol.....geology	irrirregular, -ly
geom.....geometry	Is.....Isaiah
GerGerman, Germany	It.....Italian
Goth.....Gothic	Jan.....January
Gov.....Governor	Jap.....Japanese
govt.....government	Jas.....James
Gr.....Grand, Great	Jer.....Jeremiah
Gr.....Greek	Jn.....John
gr.....grain, grains	Josh.....Joshua
gramgrammar	Jr.... ..Junior
Gr. Brit...Great Britain	JudgJudges
Gris.....Grisons	K.....Potassium [<i>Kalium</i>]
gungunnery	K.....Kings [in Bible]
H.....Hegira	K.....king
H.....Hydrogen	Kan.....Kansas
h.....hour, hours	Kt.....Knight
Hab.....Habakkuk	Ky.....Kentucky
Hag.....Haggai	L.....Latin
H. B. M....His [or Her] Britan-	L.....Lithium
nic Majesty	l. [l. s. d.], } pound, pounds
Heb.....Hebrew, Hebrews	or £..... } [sterling]
her.....heraldry	La.....Lanthanum
herpet.....herpetology	La.....Louisiana
Hg.....Mercury [<i>Hydrar-</i>	Lam.....Lamentations
<i>gyrum</i>]	Lang.....Languedoc
hhd.....hogshead, hogsheads	lang... ..language
Hind.....Hindustani, Hindu,	Lap.... ..Lapland
or Hindi	latlatitude
histhistory, historical	lb.; llb. or } pound; pounds
HonHonorable	lbs..... } [weight]
hort.....horticulture	Let.....Lettish
HosHosea	LevLeviticus
Hung.....Hungarian	LG.....Low German
Hydros.....Hydrostatics	L.H.D.....Doctor of Polite Lit-
IIodine	erature
I.; Is.....Island; Islands	Lieut.....Lieutenant
Icel.....Icelandic	LimLimousin
ichth.....ichthyology	Lin.....Linnæus, Linnæan
Ida.....Idaho	litliteral, -ly
i.e.....that is [<i>id est</i>]	litliterature
Ill.....Illinois	Lith..Lithuanian
illus.....illustration	lithog.....lithograph, -y
impera or	LL.....Late Latin, Low
impr.....imperative	Latin
impers.....impersonal	LL.D.....Doctor of Laws
impf or imp.imperfect	long.....longitude
impf. p. or	Luth.....Lutheran
impimperfect participle	M.....Middle
improp.....improperly	M.. ..Monsieur
In.....Indium	m.....mile, miles
in... ..inch, inches	m. or masc.masculine
incept.....inceptive	M.A.....Master of Arts
IndIndia, Indian	Macc.Maccabees
IndIndiana	mach... ..machinery
	Mag.....Magazine

ABBREVIATIONS.

Maj.....Major	N. A. <i>or</i>
Mal.....Malachi	N. Amer. North America, -n
Mal.....Malay, Malayan	nat.....natural
manuf.....manufacturing, manufacturers	naut.....nautical
Mar.....March	nav.....navigation, naval af fairs
masc <i>or</i> m. masculine	Nb.....Niobium
Mass.....Massachusetts	N. C. <i>or</i>
math.....mathematics, math- ematical	N. Car... North Carolina
Matt.....Matthew	N. D..... North Dakota
M.D..... Doctor of Medicine	Neb.....Nebraska
MD.....Middle Dutch	neg.....negative
Md.....Maryland	Neh.....Nehemiah
ME.....Middle English, <i>or</i> Old English	N. Eng.... New England
Me.....Maine	neut <i>or</i> n.....neuter
mech.....mechanics, mechan- ical	Nev.....Nevada
med.....medicine, medical	N.Gr.....New Greek, Modern Greek
mem.....member	N. H.....New Hampshire
mensur....mensuration	NHG.....New High German [German]
Messrs. <i>or</i>	Ni.....Nickel
.MM.....Gentlemen, Sirs	N. J.....New Jersey
metal.....metallurgy	NL.....New Latin, Modern Latin
metaph....metaphysics, meta- physical	N. Mex. ... New Mexico
meteor....meteorology	N. T. <i>or</i>
Meth.....Methodist	N. Test...New Testament
Mex.....Mexican	N. Y.New York [State]
Mg.....Magnesium	nom.....nominative
M.Gr.....Middle Greek	Norm. F.. Norman French
MHG.....Middle High Ger- man	North. E.. Northern English
Mic.....Micah	Norw.... Norwegian, Norse
Mich.....Michigan	Nov.....November
id.....middle [voice]	Num.....Numbers
Milan.....Milanese	numis.....numismatics
mid. L. <i>or</i> } Middle Latin, Me- ML..... } diæval Latin	O.....Ohio
ilit. <i>or</i>	O.....Old
mil.... military [affairs]	O.....Oxygen
min.....minute, minutes	Obad.....Obadiah
mineral....mineralogy	obj.....objective
Minn.....Minnesota	obs. <i>or</i> †...obsolete
Min. Plen. Minister Plenipoten- tiary	obsoles...obsolescent
Miss.....Mississippi	O.Bulg....Old Bulgarian <i>or</i> Old Slavic
ML. <i>or</i> } Middle Latin, Me- mid. L... } diæval Latin	Oct.....October
MLG.....Middle Low German.	Odontog...odontography
Mlle.....Mademoiselle	OE.....Old English
Mme.....Madam	OF <i>or</i>
Mn.....Manganese	O. Fr....Old French
Mo.....Missouri	OHG.....Old High German
Mo.....Molybdenum	Ont.....Ontario
mod.....modern	optoptics, optical
Mont.....Montana	Or.....Oregon
Mr.....Master [Mister]	ord.....order
Mrs.....Mistress [Missis]	ord.... ..ordnance
MS.; MSS.manuscript; manu- scripts	org.....organic
Mt.....Mount, mountam	orig.....original, -ly
mus.....music	ornith....ornithology
MUS.DOC...Doctor of Music	Os.....Osmium
myth.....mythology, mytho- logical	OS.....Old Saxon
N.....Nitrogen	O. T., <i>or</i>
N. <i>or</i> n.... North, -ern, -ward	O. Test...Old Testament
n.....noun	Oxf.....Oxford
n <i>or</i> neut...neuter	oz.....ounce, ounces
Na.....Sodium [<i>Natrium</i>]	P.....Phosphorus
Nah.....Nahum	p.; pp.....page; pages
	p., <i>or</i> part..participle
	Pa. <i>or</i> Penn.Pennsylvania
	paint.....painting
	palæon....palæontology
	parl.....parliament
	pass.....passive

ABBREVIATIONS.

pathol or
 path.....pathology
 Pb.....Lead [*Plumbum*]
 PdPalladium
 Penn or Pa.Pennsylvania
 perfperfect
 perhperhaps
 PersPersian, Persic
 pers.....person
 persp... ..perspective
 pert.....pertaining [to]
 Pet.....Peter
 Pg. or Port. Portuguese
 phar.....pharmacy
 PH.DDoctor of Philoso-
 phy
 PhenPhenician
 Phil.....Philippians
 Philem.....Philemon
 philol.philology, philologi-
 cal
 philos. { philosophy, philo-
 or phil... } sophical
 phonog.....phonography
 photog.....photography
 phren... ..phrenology
 phys.....physics, physical
 physiol... ..physiology, physi-
 ological
 PiedPiedmontese
 PlPlate
 pl. or plu...plural
 Pl. D.....Platt Deutsch
 plupf.....pluperfect
 P.M.....afternoon [*post meri-
 diem*]
 pneumpneumatics
 P. O.....Post-office
 poet.....poetical
 Pol.....Polish
 pol econ...political economy
 polit.....politics, political
 pop... ..population
 Port. or Pg.Portuguese
 posspossessive
 pp.....pages
 pp.....past participle, per-
 fect participle
 p. pr.....present participle
 Pr. or Prov.Provençal
 pref.....prefix
 prep.... ..preposition
 Pres.....President
 prespresent
 Presb.....Presbyterian
 pret.....preterit
 prim.....primitive
 priv.....privative
 prob.....probably, probable
 ProfProfessor
 pron.....pronoun
 pron.....pronunciation, pro-
 nounced
 prop.....properly
 pros.....prosody
 Prot... ..Protestant
 Prov.or Pr.Provençal
 Prov.....Proverbs
 prov.....province, provincial
 Prov. Eng..Provincial English
 PrusPrussia, -n
 Ps.....Psalm, Psalms
 psychol...psychology

pt.....past tense
 pt.....pint
 Pt.....Platinum
 pub.....published, publisher,
 publication
 pwt.....pennyweight
 Q.....Quebec
 qt.....quart
 qtr.....quarter [weight]
 qu.....query
 q.v.....which see [*quod*
 vide]
 R.....Rhodium
 R.....River
 Rb.Rubidium
 R. Cath...Roman Catholic
 rec.sec ...recording secretary
 Ref.....Reformed
 refl.....reflex
 reg.....regular, -ly
 regt.....regiment
 rel. pro. or
 rel.....relative pronoun
 reprrepresenting
 repub.....republican
 RevRevelation
 Rev.....The Reverend
 Rev. V....Revised Version
 rhet.....rhetoric, -al
 R. I.....Rhode Island
 R. N.....Royal Navy
 RomRoman, Romans
 Rom.....Romanic or Ro-
 mance
 Rom. Cath. { Roman Catholic
 Ch. or R. } Church
 C. Ch.... }
 r.r.....railroad
 Rt. Rev ...Right Reverend
 RuRuthenium
 Russ.....Russian
 r.w.....railway
 S.....Saxon
 S.....Sulphur
 s.....second, seconds
 s. [l. s. d.]..shilling, shillings
 S. or s.....South, -ern, -ward
 S. A. or
 S. Amer..South America, -n
 SamSamaritan
 Sam.....Samuel
 Sans, or
 Skr.....Sanskrit
 Sb.....Antimony [*Stibium*]
 s.c.....understand, supply,
 namely [*scilicet*]
 S. C. or
 S. Car....South Carolina
 Scand.....Scandinavian
 Scot.....Scotland, Scotch
 scr.....scruple, scruples
 Scrip.....Scripture [s], Scrip-
 tural
 sculpsculpture
 S. D.....South Dakota
 Se.....Selenium
 sec.... ..secretary
 sec.....section
 Sem.....Semitic
 SepSeptember
 Serv.....Servian
 Shaks.....Shakespeare
 SiSilicon

ABBREVIATIONS.

Sic.....Sicilian
 sing..... singular
 sis.....sister
 Skr. or
 Sans.....Sanskrit
 Slav.....Slavonic, Slavic
 Sn.....Tin [*Stannum*]
 Soc.....Society
 Song Sol...Song of Solomon
 Sp.....Spanish
 sp. gr.....specific gravity
 sq.....square
 Sr.....Senior
 Sr.....Strontium
 Saint
 street
 stat.....statute
 S.T.D.....Doctor of Sacred
 Theology
 subj.....subjunctive
 suf.....suffix
 Su. Goth...Suo-Gothic
 superl.....superlative
 Supp.....Supplement
 Supt.....Superintendent
 surg.....surgery, surgical
 Surv.....surveying
 Sw.....Swedish
 Swab.....Swabian
 sym.....symbol
 syn.....synonym, -y
 Syr.....Syriac, Syrian
 t.....town
 Ta.....Tantalum
 Tart.....Tartar
 Te.....Tellurium
 technol...technology
 teleg.....telegraphy
 Tenn.....Tennessee
 term.....termination
 terr.....territory
 Teut.....Teutonic
 Tex.....Texas
 Th.....Thorium
 theat.....theatrical
 theol.....theology, theological
 therap.....therapeutics
 Thess.....Thessalonians
 Ti.....Titanium
 Tim.....Timothy
 Tit.....Titus
 Tl.....Thallium
 toxicol....toxicology
 tp.....township
 tr. or trans.transitive
 transl.....translation, trans-
 lated

trigon.....trigonometry
 Turk.....Turkish
 typog.....typography, typo-
 graphical
 U.....Uranium
 ult.....ultimate, -ly
 Unit.....Unitarian
 Univ.....Universalist
 Univ.....University
 U. Presb...United Presbyterian
 U. S....United States
 U. S. A....United States Army
 U. S. N....United States Navy
 Ut.....Utah
 V.....Vanadium
 v.....verb
 Va.....Virginia
 var.....variant [word]
 var.....variety of [species]
 Ven.....Venerable
 Venet.....Venetian
 vet.....veterinary
 v. i. or
 v. intr...verb intransitive
 vil.....village
 viz.....namely, to-wit [*vide*
 licet]
 v. n.....verb neuter
 voc.....vocative
 vol.....volume
 vols.....volunteers
 Vt.....Vermont
 v. tr.....verb transitive
 W.....Tungsten [*Wolfram*]
 W.....Welsh
 W. or w....West, -ern, -ward
 Wal.....Walachian
 Wall.....Walloon
 Wash.....Washington
 Westph....Westphalia, -n
 W. Ind. } West Indies, West
 or W. I... } Indian
 Wis.....Wisconsin
 wt.....weight
 W. Va.....West Virginia
 Wyo.....Wyoming
 Y.....Yttrium
 yd.....yard
 yr.....year
 Zech.....Zechariah
 Zeph.....Zephaniah
 Zn.....Zinc
 zool.....zoology, zoological
 Zr.....Zirconium

See also ABBREVIATIONS: in Vol. I.

THE IMPERIAL CYCLOPEDIA AND DICTIONARY.

CLONES, *klōnz*: market town of Ireland, county of Monaghan, 12 m. w. from the town of Monaghan. It is on rising ground on the high-road between Monaghan and Belturbet, and near the Ulster canal; is in general well built, and has some ancient remains, including the ruins of a monastery, dating, it is said, from the 5th c., and of a round tower. It has manufactures of linen, corn-mills, and a brewery, and is the seat of a poor-law union. Pop. about 3,000.

CLONIC, a. *klōn'ik* [Gr. *klōnos*, a violent confused motion]. in *med.*, applied to spasms or convulsions, rapidly alternating with relaxation.

CLONMEL, *klon-mēl'* (Vale of Honey): municipal borough in Tipperary county, Ireland, with a little in Waterford: on both banks of the Suir, and two islands; 14 m. s.s.e. of Cashel. It stands chiefly on the Tipperary side of the Suir, and on one of the isles in the river. One of the bridges over the Suir has 20 arches. The main street is a mile long, paralalled to the river. It has manufactures of cotton, and large flour-mills. The chief exports are agricultural produce and cattle. Barges of 20 to 50 tons ply on the Suir to Waterford. C. had formerly walls, of which one gate remains. In 1650 Cromwell besieged the town, and demolished the castle. C. was the birth-place of Sterne and Lady Blessington, and was the chief scene of O'Brien's attempted rising 1848. Here was first established the cheap and rapid car travelling over the s.w. of Ireland; and C. is now a great centre for Irish tourists. Pop. (1871) 10,112; of whom 8,729 Rom. Cath., 1,119 Prot. Episc. Pop. (1891) 8,480.

CLONTARF, *klon-tārf*: town of Ireland, county of Dublin, about three m. e.n.e. of Dublin city. It is frequented during the summer months for sea-bathing, and there are many handsome villas in the vicinity. C. is noted as the place where, 1014, Brian Boroimhe (q.v.) won a great victory over the Danes. Pop. (1871) 3,442; (1891) 5,105.

CLOOTS, *klōts*, JEAN BAPTISTE, Baron (better known as Anacharsis Cloots): perhaps the most singular of all the

CLOOTS.

enthusiasts brought to the surface of society by the French Revolution: 1755-1794, Mar. 23; b. near Cleves. From his 11th year he was educated in Paris. Through ardent study of the ancients his imagination, naturally extravagant, became so heated with the political constitutions of Greece, that he undertook the mission of spreading the democracy of Sparta and Athens throughout the world; and with this view he travelled through most of the countries of Europe, under the name of Anacharsis, everywhere expending upon his philanthropic schemes large sums of his considerable private fortune. The union of all nations in one family was the ultimate aim of all his cosmopolitan schemes. The breaking out of the French Revolution brought his enthusiasm to a head, as he saw in it the fulfilment of his dreams and plans. He returned to Paris, constituted himself the 'orator or advocate of the human race,' and presented numerous petitions to the national assembly. 1790, June 19, he appeared at the bar of the assembly at the head of a number of strangers dressed in the costumes of different nations, as the representatives of the whole earth, and presented an address of thanks for the stand made against the tyrants of the world and a request that all the strangers then in Paris should be made French citizens. As a member of the constituent assembly he offered to raise a Prussian corps, to be called the Vandal Legion; proposed to lay a price on the head of the Duke of Brunswick; called the king of Prussia the Sardanapalus of the north; and eulogized Count Ankarstrom for having assassinated the king of Sweden. These extravagances were received often with storms of applause. He called for the apotheosis of Gutenberg in the Pantheon, as the 'creator of the word,' and also for that of an apostate priest. On the occasion of the general armament of France he deposited 12,000 francs on the altar of the country. In 1792, he was elected a member of the convention, and continued to weary the house with his extravagant motions. He hated Christianity no less than royalty; declared himself the enemy of its founder; and, as an adherent of the worship of reason, preached downright materialism. At the trial of Louis XVI. he gave his vote for death, 'in the name of the human race,' and took occasion at the same time to pass sentence on the king of Prussia. Some time afterward, on the motion of Robespierre, he was excluded from the club of the Jacobins, on the ground that he was wealthy and a nobleman. Robespierre hated and feared the enthusiast, and when St. Just brought his impeachment against Hebert and his adherents C. was involved in it, was condemned to death, and the sentence was executed 1794, March 23. He heard his sentence with the greatest composure, comforted the companions of his fate, and continued to preach materialism to his friend Hebert on the way to the place of execution. At the foot of the scaffold he requested that his turn might be last, in order that he might have time to establish a few more principles, while the heads of the others were falling. He then laid his head with equanimity on the block, after asserting his innocence,

CLOQUET—CLOSE.

and protesting against his sentence 'in the name of the human race.' He left a number of writings, all of the same extravagant character; among them *Certitude des Preuves du Mohammédisme* (Lond. 1780), *L'Orateur du Genre Humain* (1791), and *Base Constitutionnelle de la République du Genre Humain* (1793).

CLOQUET, *klo-kā'*, JULES GERMAIN: 1790, Dec. 18—1883; b. Paris: surgeon. He became prof. of clinical surgery in the Faculty of Paris 1831, member of the Acad. of Sciences 1855, commander of the Legion of Honor 1860, and a baron 1867. He invented many surgical instruments, devised new methods of operating, and improved the art of modelling in wax; the anatomical museum in Paris preserves many of his preparations. His dissertations won several prizes; he wrote on hernia, calculi, diseases of the urinary organs, the preparation of skeletons, the lachrymal apparatus in serpents, and the anatomy of intestinal worms. His chief work, on human anatomy, 3 vols. folio, appeared 1821–31. He also published *Souvenirs de la vie privée du Général Lafayette*.

His elder brother, Hippolyte C., (1787–1840), also was an eminent anatomist.

CLOSE, a. *klōs* [F. *clos*, closed, shut, an inclosed field—from L. *clausus*, shut up: Gael. *clobhsa*, an inclosure, an entry]: shut up; having no vent or outlet; confined; compact; solid or dense; concise; brief; very near; private; narrow; crafty; penurious; warm; oppressive, as the weather; in *bot.*, pressed together; not spreading: N. in *Scot.*, a narrow passage; a blind alley; a courtyard; an inclosure, as about a cathedral: AD. closely; nearly; secretly. CLOSELY, ad. *klōs'ly*, with no space intervening; nearly; attentively; secretly; in detail; minutely. CLOSE-BODIED, fitting the body closely. CLOSE CORPORATION, a body which filled its own vacancies—generally used in an abusive sense. CLOSE-FISTED, or CLOSE-HANDED, niggardly; penurious. CLOSE-HARBOR, one formed by encircling a portion of water with walls and quays, except at the entrance, or by excavating the land adjacent to the sea or river, and then letting in the water. CLOSE-HAULED, or CLOSE TO THE WIND, mode in which the sails are arranged, in order to make the ship move in a direction the nearest possible toward that point of the compass from which the wind blows. Fore and aft vessels, especially cutters, sail closer to the wind than square-rigged ones. Ships of some sizes and shapes can attain this result better than others; but it is a quality scarcely to be calculated beforehand. CLOSE-PACK, the ice-floes so jammed together that the passing of a vessel through them becomes impossible. CLOSE QUARTERS, in direct contact; hand to hand. CLOSE SET, put or placed closely together. CLOSE-STOOL, a night-stool; a commode. CLOSE-TIME, a fixed period during which certain operations or powers to do are legally stopped, as to fish for salmon, or to shoot certain birds. CLOSENESS, n. *klōs'nēs*, narrowness; want of ventilation; compactness; secrecy. *Note.* — CLOSE, in its original meaning, was

CLOSE—CLOSURE.

simply 'a small, narrow, or limited space,' as, 'He only rented a small *close*, enough to keep one cow'—that is, an *inclosed field*; in *Scot.*, *room* indicated a still smaller space, as on tombstones in some burial-grounds we have such inscriptions—'2 rooms,' '4 rooms,' a *room* meaning a space sufficient for an adult grave.—*SYN.* of 'close, a.': tight; confined; secluded; secret; retired; stagnant; oppressive; secretive; cautious; wary; reticent; taciturn; attentive; parsimonious; niggardly; penurious; covetous; dense solid; compact; adjoining; near; intimate; familiar; confidential; undeviating; strict; accurate; careful; precise; earnest; faithful; doubtful.

CLOSE, *v.* *klōz* [see above]: to shut up; to make fast; to end or finish; to cover; to inclose; to come or bring together; to unite; to engage in battle hand to hand: *N.* conclusion; end; a pause; cessation; the time of ending, finishing, or shutting up. **CLOS'ING**, *imp.* **CLOSED**, *pp.* *klōzd*. **CLOS'ER**, *n.* *-zēr*, one who or that which. **CLOSURE**, *n.* *klō'zhūr*, the act of shutting up; that by which a thing is shut; the parts inclosed; in *O.E.*, the end or conclusion. To **CLOSE WITH**, to accede or agree to; to grapple with.—*SYN.* of 'close, *n.*': conclusion; termination; cessation; stop; end; ending; extreme; extremity;—of 'close, *v.*': to finish; shut; complete; terminate; end.

CLOSE, *klōs*, in Heraldry: when the wings of a bird are down and close to the body; term used only with reference to birds addicted to flight, such as the eagle, falcon, etc. Of dunghill cocks, and other domestic fowls, it is understood that their wings are usually in this position. Barnacles, and bits for horses, are said to be *close* when they are not extended.

CLOSET, *n.* *klōz'ēt* [dim. of *close*, an inclosure]: a small room or apartment for retirement; a small, dark room: *V.* to shut up; to conceal; to take into a private apartment for consultation. **CLOS'ETING**, *imp.* **CLOS'ETED**, *pp.*

CLOS'ET, in Heraldry: the half of the bar (*q.v.*).

CLOSURE, or **CLÔTURE**: device for closing debate in parliamentary assemblies, the use of which is analogous to that of the previous question in American deliberative bodies. In the French chamber of deputies the president is to take the sense of the chamber before pronouncing the closing of debate. If the *clôture* is opposed, only a single speech against it is allowed. The *clôture* being once pronounced no further debate is in order, with the single exception of remarks upon the state of the question. In the English parliament the previous question does not have, as in America, the effect of suppressing all further discussion of the main question. When means for this purpose were first devised, the name closure or *clôture* was adopted from the French. After the obstructive tactics pursued by the Irish members in the sessions of 1881 and 1882, standing orders were adopted in the latter year which provided that the speaker of the house of commons, or chairman of the committee of ways and means (a committee of the whole), might stop debate at his discretion, if supported by more

CLOT—CLOTHES-MOTH.

than 200 members, or if opposed by less than 40 and supported by more than 100. In 1888, Feb., it was provided that closure should take place when there were 100 members voting in the majority in favor of it.

CLOT, n. *klõt* [Sw. *klots*, a log; *klot*, a bowl: Dut. *kloot*, a lump; allied to **CLOD**, which see]: fluid matter thickened or coagulated into a lump or lumps—*clod* is applied to earth: V. to turn into masses or lumps; to coagulate or thicken, as milk or blood. **CLOT'TING**, imp. **CLOT'TED**, pp.: **ADJ.** converted into clots; reddened as with clotted blood. **CLOT'TY**, a. *-tŭ*, full of clots. **CLOTTED CREAM**: see under **CLOUT**.

CLOTAIRE I. and II.: Kings of the Franks: see **ME-ROVINGIANS**.

CLOTH, n. *klõth* [AS. *clath*, cloth: Ger. *kleid*: Icel. *klædi*, a garment: W. *clyd*, warm: Gael. *cloimh*, wool]: any woven stuff; any fabric woven from wool; the covering of a table. **CLOTHS**, plu. *klõths*, meaning different kinds. **CLOTHE**, v. *klõth*, to cover with articles of dress; to put on raiment; to invest; to surround; to spread over or to cover. **CLO'THING**, imp.: N. garments in general; dress. **CLOTHED**, or **CLAD**, pp. *klõthd*, *kläd*. **CLOTHES**, n. plu. *klõthz*, garments or dress for the body. **BED-CLOTHES**, coverings of a bed. **CLOTHES-BASKET**. **CLOTHES-BRUSH**. **CLOTHIER**, n. *klõth'yér*, a seller of cloths; a seller or maker of clothes; an outfitter. **CLOTHIERY**, n. *klõth'yér-ŷ*, a place where different kinds of cloth and made clothing are stored, or kept for sale. **THE CLOTH**, a familiar name for the clergy in general, or the clerical profession.—**SYN.** of 'clothes': dress; attire; apparel; array; costume; habit; clothing; garment; vesture; vestment; raiment; garb.

CLOTHES'-MOTH: name common to a number of species of small moths of the genus *Tinea*, the larvæ or caterpillars of which are extremely destructive to woollen clothes, furs, stuffed quadrupeds and birds, etc. *Tinea destructor* is one of the most annoying of these insect pests. It is of a satiny buff color, the wings deflexed when at rest. The larva is about a quarter of an inch long, with only a few hairs, white, with a slate-colored line down the back, an ochreous head, and 16 legs. *T. tapezana* has the upper wings black at the base, the rest of the wing white. *T. sarcitella* is another very common species, of a silky gray color; the head, thorax, and base of the superior wings white; the wings folded flat on the back when at rest. The larva is covered with scattered hairs. These moths are most abundant in the warmer seasons of the year, but their larvæ carry on their destructive operations even during winter. Guided by instinct, the female moth lays her eggs where the larvæ may find their appropriate food, consisting of substances indigestible to almost every other creature; and the larvæ, being furnished with minute but strong and sharp jaws, not only begin to eat as soon as they are hatched, but to cut the fibres of the substances on which they feed into little bits, and to unite them by means of a glutinous silk of their own

CLOTHO—CLOTILDA.

producing, so as to form for themselves cases, lined internally with silk; and in these they constantly abide, adding to them at the anterior end as their own increase of size requires, and also widening them, by slitting them down the middle, and mending them with additional materials. All this may be observed by transferring the same moth-larva to different pieces of flannel in succession, of different colors. The larva of *Tinea tapezana* works its way through woollen stuffs in an arched gallery, carrying its little case with it. *T. pellionella* makes similar tunnels in furs. *T. granella* is destructive to books as well as to grain: see CORN-MOTH. The best means of preventing the ravages of moths are perfect cleanliness, with brushing, beating, and shaking, frequent inspection of articles, and their exposure to light and air. Spirit of turpentine is used for killing them; the vapor arising from a sponge dipped in this liquid is fatal to such as it sufficiently reaches; they are killed also by the heat of a brisk fire or of an oven.

CLOTHO, n. *klō'thō* [L. or Gr., the spinner]: youngest of the three Moiræ, Parcæ, or Fates, represented as holding a distaff from which she spun the threads of mortal lives; sometimes pictured wearing a crown with seven points or stars: see LACHESIS.

CLO'THO: genus of spiders, of which the only known species, *C. quinque maculata*, native of the s. of Europe and n. of Africa—about half an inch long, long-legged, brown, with black abdomen, marked with five yellowish spots—is interesting on account of its habits and the sort of tent which it spins for itself. This curious structure is in shape like a limpet shell, about an inch in diameter, and is fastened to the under side of stones or in crevices of rocks, not by its whole circumference, but by seven or eight points only. Within this the eggs are deposited in several bags of lenticular form. The parent creeps in and out under the edges of her tent, and supplies the young with food for some time.

CLOTILDA, *klo-tîl'da*, SAINT: 475–545: daughter of Chilperic, King of Burgundy, and wife of Clovis, King of the Franks. Her parents and brothers were killed by her uncle Gundebald, who spared and educated her, but opposed her marriage. Following her mother in the Christian faith, she was a favorite with the clergy, who aided her escape; she was married 493, and accomplished her husband's conversion 496. Their vengeance paused at the victory near Langres, when her uncle became tributary; but after Clovis's death, 511, C., whose religion did not include forgiveness of injuries, stirred up her sons to renew the war, and had her cousin Sigismund, with his wife and children, thrown into a well. Burgundy was now united to the Frank empire. C. spent her later years at Tours, near St. Martin's tomb, in austere devotions, and in founding churches and monasteries. She was buried in the church of St. Genevieve, built by her husband in Paris, and she was canonized by Pelagius I. Her remains were

CLOTPOLL—CLOUD.

burned by the Abbé Rousselet in the Revolution, to save them from desecration; her ashes are now in the church of St. Leu. A fine church has been built in her honor, and her statue is in the Luxembourg. Her son, Clotaire I. (497-561), murdered his nephews, and had his own son burned alive with wife and children. Her daughter Clotilda was abused and mortally wounded, 531, by an Arian husband, Amalaric, King of the Visigoths.

CLOTPOLL, n. *klõt'pōl* [*klot*, and *poll*]: a clodpoll; a blockhead; a dull, stupid fellow.

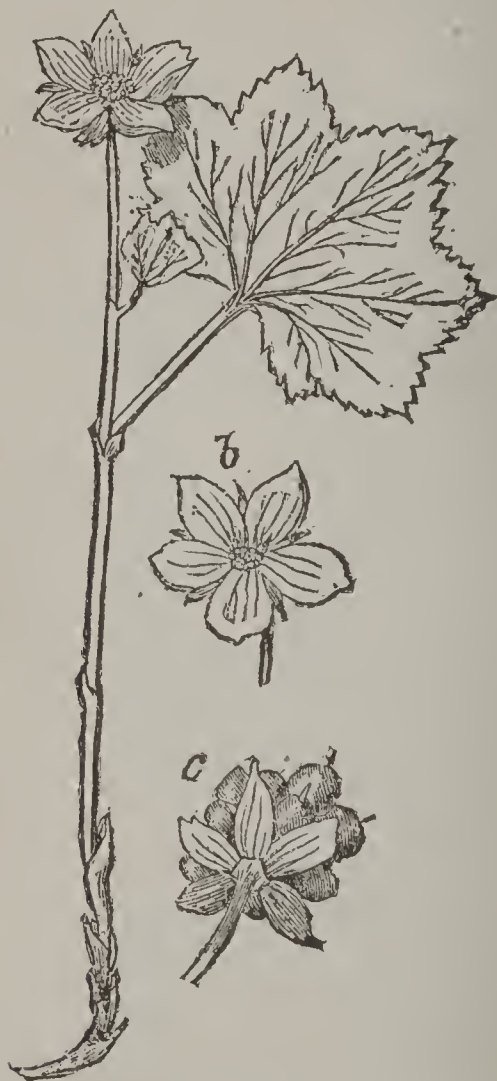
CLOUD, n. *klowd* [AS. *clúd*, a round mass, as of rock: old Dut. *clote*, a cloud—allied to *clod*, being vapors drawn into *clods*, or *separate masses*: Gael. *clud*, a patch, a clout]: vapor formed into separate masses; a mass of visible vapor floating in the atmosphere; a great multitude, in the sense of a diffused and indistinct mass; a kind of soft woolen scarf: V. to obscure or darken; to overspread with clouds; to make of a gloomy or sullen aspect; to sully; to tarnish; to become obscure; to grow cloudy. **CLOUD'ING**, imp. **CLOUD'ED**, pp.: **ADJ.** having a variegated appearance like white, fleecy clouds; deficient in clearness. **CLOUD'Y**, a. -*ī*, overcast; obscure; gloomy; dispiriting; semi-opaque. **CLOUD'ILY**, ad. -*lī*. **CLOUD'INESS**, n. the state of being cloudy; dimness; darkness. **CLOUD'LESS**, a. without a cloud. **CLOUD'LESSLY**, ad. -*lī*. **CLOUD BERRY**, the mountain-bramble, abounding in the Highlands of Scotland—so named from the high situations where found; the *Rubus chamæmorus* or ground mulberry, ord. *Rosūcēæ*. **CLOUD-CAPT**, crowned with mist or clouds; very high. **CLOUD-WRAPT**, -*rāpt*, enveloped with mist or clouds; obscure. **IN THE CLOUDS**, beyond the range of the eye—applied to flights of fancy, or to confused and obscure representations; absent; not attending to what is going on around. **UNDER A CLOUD**, under suspicion; in social disrepute. *Note.*—Strictly *water-vapor* is colorless and invisible,—a *cloud* is this vapor condensed into very minute drops.

CLOUD, Str., *sént klowd*, Fr. *sāng kló*: town of France, dept. of Seine-et-Oise, on the declivity of a hill near the Seine, 5 m. w. of Paris. Its present name is said to be a corruption of St. Clodoald, the name of a grandson of Clovis, who retreated to the little village of Novigentum to escape the fury of his uncle, Clotaire, and became a monk. After his death, the village took the name of the pious prince, whose relics were sacredly preserved, and whose tomb was the scene of many miracles. St. C. figures often in the wars of the middle ages. Henry III. was assassinated here, 1589, by the fanatical monk Jacques Clement. St. C. was long famous on account of its magnificent château, built by Mazarin, and embellished by successive dukes of Orleans, who possessed it till 1782, when it passed into the hands of Marie Antoinette. Here Bonaparte, 1799, was named first consul; and in this place Charles X. signed the ordinances which produced the revolution of 1830. But during the siege of Paris, 1870, Oct. 13, the château was set on fire and almost entirely destroyed by the French

CLOUD-BERRY.

artillery from Mont Valerien; apparently because it was supposed to be the headquarters of the German staff. Pop. (1891) 5,660.

CLOUD-BERRY (*Rubus Chamæmorus*): plant of the same genus with the bramble, though of very different appearance, having a herbaceous single-flowered stem destitute of prickles. The plant is of humble growth, 8-10 inches in height; the leaves few, large, lobed, and somewhat kidney-shaped; the flower large and white, male and female flowers on separate plants, the female plant



Cloudberry:

b, the flower; c, the fruit.

producing an orange-red fruit equal in size to a bramble-berry, of an agreeable flavor. It is a native of n. Europe, Asia, and America. In Britain, it is chiefly confined to elevated moors; in Norway and Sweden, it is much more abundant, and the fruit is highly valued and made into excellent preserves. Unfortunately, the plant is of difficult cultivation, and attempts to make it produce fruit freely in gardens are not usually successful. Somewhat similar to the C. is *Rubus geoides*, which yields a very agreeable fruit as large as a raspberry, one of the few native fruits of Terra del Fuego and the Falkland Islands.

CLOUDS.

CLOUDS: masses of fog, consisting of minute particles of water, often in a frozen state, floating in the atmosphere. When air saturated, or nearly so, with vapor, has its temperature lowered, either by ascending and becoming rarer, or by meeting a colder current, a portion of the vapor loses its gaseous form, and becomes condensed into minute specks of water: see **EVAPORATION: DEW: RAIN: SNOW-LINE.** A cloud, therefore, does not consist of vapor, in the proper sense of the word, but of water in the form of dust, as it were. How this water-dust is suspended in the atmosphere—why the particles do not descend as soon as formed, has never been satisfactorily explained. It has been assumed that the watery particles are hollow, like blown bubbles. But there is no proof of this; nor would the hollowness of the particles account for their floating, unless it could be shown that they must be filled with a gas lighter than the surrounding air. Professor G. G. Stokes holds that they are prevented from falling mainly by the friction and drag of the air particles, just as fine powders remain suspended in liquids of much less specific gravity than themselves. But, as Sir J. Herschel says, rising and horizontal air-currents must also oppose the fall of C.; for at night, in the absence of rising air-currents, they often descend to, and dissolve in lower and warmer levels. For the conditions under which C. are formed, and afterward deposited in rain, see **EVAPORATION: DEW: RAIN: SNOW-LINE.**

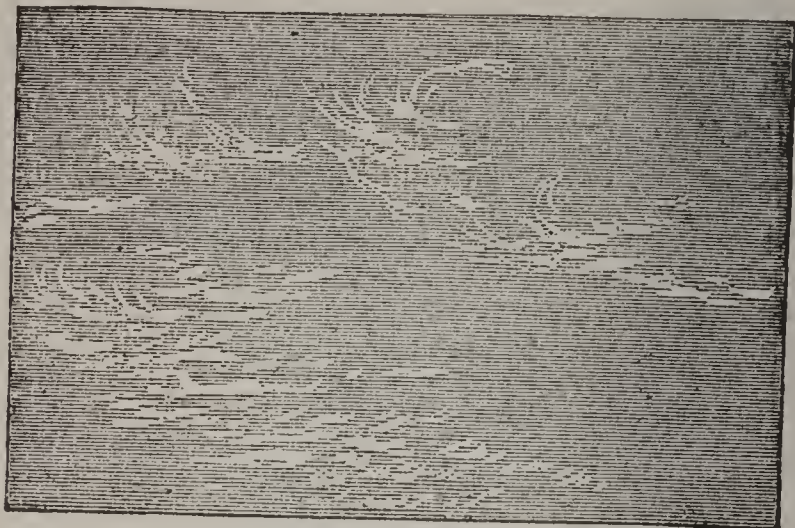
A general haze of precipitated vapor covering the sky, and coming down to the earth, is termed a *Fog* or *Mist*; and the term cloud is usually confined to masses of fog floating in the higher regions, and not descending to the ground. They are mostly within a mile of the earth's surface, and none are more than five or six miles above it. They rise higher in the equatorial regions than toward the poles. C. spread and move with the wind in varied, often grand, forms; they are generally disposed in beds parallel to the earth's surface; vertical C. occur rarely, if at all.

Mr. Luke Howard's classification of C., proposed in 1802, into three primary forms—Cirrus (Ci.), Cumulus (Cu.), and Stratus (St.); three intermediate—Cirro-cumulus (Ci.-cu.), Cirro-stratus (Ci.-st.), and Cumulo-stratus (Cu.-st.); and one compound form, Nimbus (Ni.)—has been universally adopted, and holds good in all climates and atmospheric conditions.

Cirrus, or curl cloud, consists of parallel, curling, flexuous, diverging, and partly straight fibres, increasing in any or in all directions by elongation, branching, or addition of new fibres. It is the highest and least dense of C.; forms at least three m. above the earth; varies most in extent, direction, and shape; retains longest its varied outlines; and is the longest illuminated after sunset and before sunrise. It resembles a mare's or cat's tail, a lock of hair, fine trellis-work, or thin, silvery streaks, and it may cover all the sky. Cirri seem to arise from the mixing of parallel air-currents, or are the relics of dissolving clouds drawn out in fibres by wind. Threads and groups of Ci., during

CLOUDS.

gentle wind after severe weather, presage serene, settled weather. But after a long tract of fair days, whitish fila-



Cirrus.

ments or parallel bands of Ci. crossing the sky, with the ends converging by perspective in each horizon, and travelling longitudinally, though seemingly stationary, foretell a change to wet. Ci., being so high, must consist of minute snow crystals, whose refractions and reflections produce the halos, coronæ, and mock suns and moons almost restricted to this cloud and its derivatives the Ci.-st. and Ci.-cu. The fibres often wave back and fore, or to and from each other. Ci., especially with fine tails, varying much in a few hours, presage rain or snow, and windy, variable weather.

Cumulus, ball of cotton, day or summer cloud, consists



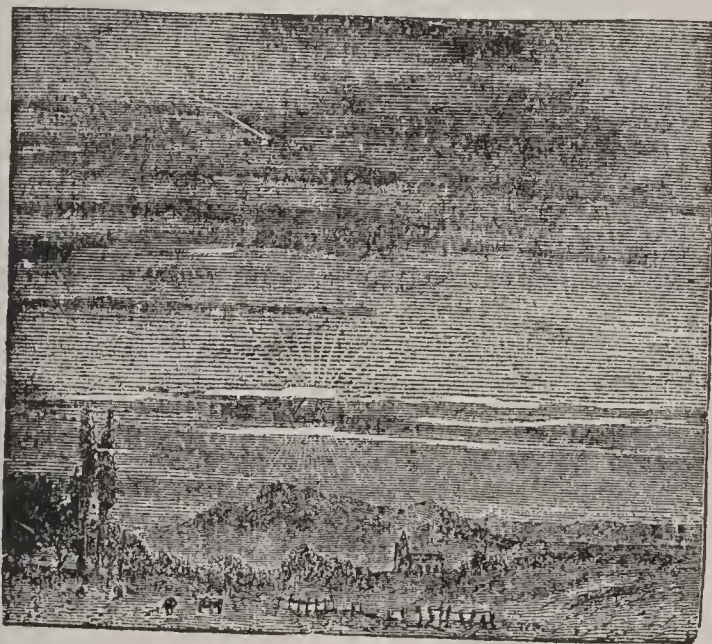
Cumulus.

of dense, convex, hemispherical, or conical heaps of small roundish C., piled or stacked on each other. The heaps

CLOUDS.

enlarge upward from a horizontal base, and have crenated tops; they sometimes unite into stupendous white-topped mountains. It forms, says Sir J. Herschel, in summer calms by the rise of columns of vapor from marshes, lakes, and rivers, into the colder and quickly saturable lower regions of the air; for one liquid traverses another in cylinders. Cumuli begin after sunrise as a few scattered specks in the clear sky; these specks enlarge and unite to form C., which often nearly cover the sky in the afternoon, and generally decrease and vanish about sunset; but rain follows if they increase in number and darkness in the evening. Their tops become Ci. in very dry air. Cu., of pleasing forms, dispositions and colors, and of moderate size, presage fine, dry, warm, and calm days; but cold, rain, and tempest follow dark, abrupt, dense, shaggy Cu., covering the sky, and rolling on each other. Hemispherical, silvery-white Cu. presage thunder.

Stratus, fall, or night-cloud, the lowest of C., is a widely extended, horizontal sheet, of varied thickness, of white mist touching or near the earth. In density it is between Ci. and Cu., and it increases from below. It is common in summer and autumn, often from sunset to sunrise, and is densest at or after midnight. It arises in calm, clear evenings, after warm days, from the cooling of moist air



Stratus.

on damp ground, marshes, lakes, rivers, or from the cooling of moist air mixed with smoke enveloping great cities. From a height it is seen spreading around like a sea, and creeping up hillsides. After sunrise it rises from the ground, breaks up into Cu., and vanishes with the increasing heat, to be followed by a serene day; but it may quietly accumulate in layers, and become a Ni. It does not wet objects that it touches, and thus differs from a variety of Ci.-st. of like external aspect.

Cirro-cumulus, or sonder-cloud, consists of Ci. sinking in

CLOUDS.

the air, and compressed into dense roundish-white cloud-lets, or wooly irregular tufts, generally at great heights. It often forms a beautiful sky in beds like flocks of sheep at rest. It is often seen through breaks in lower C. moving differently. It may vanish or pass into Ci. or Ci.-st. Solar and lunar coronæ appear in it. It occurs in warm, dry weather, and between summer showers, and presages increased heat. Ci.-cu. very dense, round, and close, and with Cu.-st., presages a storm or thunder. In winter it precedes a thaw and warm, wet weather.

Cirro-stratus, or vane-cloud, consists of long, thin, horizontal clouds, with bent, or undulated edges. It often resembles shoals of fish, or has a barred appearance—the mackerel-backed sky. When alone, or with Ci.-cu., it forebodes rain, snow, and storm. Waved Ci.-st. generally attends heat and thunder; it often forms an extended, shallow bed or thin veil, through which the sun and moon shine faintly. This variety oftenest presents the finest solar and lunar halos, parhelia and paraselenes, and it is the surest prognostic of rain and snow.

Cumulu-stratus, or twain-cloud, is a Ci.-st. mixed with Cu. heaps, or a wide, flat base surmounted by a bulky Cu., with fleecy protuberances or rocky and mountain masses. It resembles a thick-stemmed fungus, with a flat, anvil-shaped, or cirrous top. It is much denser than Cu., though the air is not dry enough to round off sharply its tops. It often forms vast banks of cloud, with overhanging masses. It is common toward night in dry, windy weather, when it has a leaden hue. It generally arises from Cu. becoming denser, wider, and protruding in large irregular projections over the base. It tends to overspread the sky, and partly or wholly to become Ni., and fall in showers. Cu.-st. is intermediate between clouds indicating fair, and those indicating rough, rainy weather, and attends sudden atmospheric changes. Distinct Cu.-st. forms before thunder. Cu.-st. increases the grandeur of mountain scenery, and drops on and envelops mountain-tops like a curtain.

Nimbus, or Cumulo-cirro-stratus, the black rain-cloud, is a cloud or mixed system of clouds, ending in showers of rain, snow, or hail. It is a dense, continuous, horizontal black or gray sheet, with fringed edges, a cap of Ci., and Cu. on the sides and below. Before rain, vast towering masses of Cu. often pass into Cu.-st., which, increasing in density, darkness, irregularity, and extent, become Ni. capped by Ci.-st. Thunder-storms are always accompanied by Ni. in its most perfect form.

The term *scud* has been applied to loose vapory fragments of C. driven by wind, and *cumulonous* to shaggy cumuli.

The formation and height of C. vary with the quantity of vapor in the air, the course and height of air-currents, the climate, season, temperature, disposition, and extent of sea and land, and the height of land. Cloud-strata on the Pyrenees vary in average thickness from 1,600 to 3,400 ft. The lower surfaces of considerable masses of clouds in all climates are probably 2,500 to 3,000 ft. above the earth.

CLOUDY BAY—CLOUGH.

Remarkable cloud-rings prevail over the calm zones of the equator, and over those of Cancer and Capricorn. Clouds, viewed from above in bright sunshine by the aeronaut or mountaineer, appear as dense volumes of steam or masses of white cotton. Kaemtz regards the usual height of Ci. as 10,000 to 24,000 ft.; Cu., 3,000 to 10,000; Ni., 1,500 to 5,000; but Ci. may descend to 2,000 or 3,000 ft., and Ni. to within a few hundred ft. of the earth.

C. moderate the sun's rays during day, and the earth's radiation during night. They always exhibit positive or negative electricity, but of greatest tension in thunderstorms. They are the sources of the moisture required by plants; of the water of springs, lakes, and rivers; and of the, polar, glacial, and winter snows, which cover temporarily or permanently parts of the earth.

In Britain, six or seven tenths of the sky is on an average daily obscured by clouds. There is most cloud in winter, and about mid-day, and least in May or June, and during night. Summer and autumn nights are freest of clouds. All the forms of C. may be seen in one day, often very much commingled. In North America, the average of cloudless sky is much greater.

CLOUDY BAY: see NEW ZEALAND.

CLOUGH, n. *klöf*: in *com.*, an allowance of two lbs. for every three cwt. for the turn of the scale to the wholesale purchaser of goods; in *drainage*, a sluice used in returning water to a channel after depositing its sediment on the flooded land.

CLOUGH, n. *klüf* [Icel. *clofi*, a gap]: a cliff; a ravine.

CLOUGH, *klüf*, ARTHUR HUGH: 1819, Jan. 1—1861, Nov. 13; b. Liverpool: poet. He was at Charleston, S. C., 1823–28, with his father, a cotton-merchant; was educated at Rugby, with Stanley, Matthew Arnold, and Thomas Hughes, and was one of Dr. Arnold's favorite pupils; entered Balliol College, Oxford, 1836, and became a fellow of Oriel 1842, and tutor 1843. Unable to accept the rising Tractarian views, he was as far from the old Evangelicalism; and, feeling some disharmony between his opinions and his surroundings, he resigned, 1848, and published his longest poem, the *Bothie of Tober-na-Vuolich*, in hexameters. He went abroad and was in Rome during its siege by the French. Some minor poems of great beauty, *Ambarvalia*, appeared 1849. He was principal of University Hall, and prof. of English at University College, London, 1849–52, and then spent 8 mos. at Cambridge, Mass., where he was known and loved by the best men. He returned to London 1853, July, to be an examiner in the education office of the privy council, and soon married. *Amours de Voyage*, a poem in epistolary hexameters, appeared in the *Atlantic Monthly* 1858, and his scholarly revision of Dryden's Plutarch (begun 1853) in Boston 1859. His labors were increased by aid rendered to his wife's cousin, Florence Nightingale, in the beneficent reforms to which her life was devoted. Seeking in vain to mend broken health by travel, he died at Florence, deeply beloved and lamented.

CLOUGH—CLOVE.

ed by those who knew him best, and leaving in MS. a tragedy, *Dipsychus*, *Mari Magno*, or *Tales on Board*, and some exquisite though unpolished lyrics. His poems are very precious to such as value delicately subtle thought, and fresh, unhackneyed, manly feeling; they belong to no school, but are deeply impregnated with the spirit of the time and with his own rare character and reverent skepticism. They appeared, with a memoir by C. A. Norton, in Boston, 1862, and with his *Prose Remains* and a sketch of his life by F. T. Palgrave, in London, 1869. Matthew Arnold has commemorated him in *Thyrsis*.

CLOUGH, JOHN E.: 1836, July 16; b. Frewsbury, Chautauqua co., N. Y.: Bapt. missionary. After serving four years in the United States survey of Minn., he studied law 1858, graduated at Upper Iowa Univ. 1862, united with the Bapt. Church, changed his choice of vocation, and was appointed a missionary to India 1864. He labored among the Teloogoos at Nellore 1865-66, removed to Ongole and organized a church 1867, Jan. 1, which had a membership of 13,106, probably the largest church in the world, 1879. It had 46 native preachers and 30 assistants. With their aid Mr. C. immersed 3,262 converts in three days, and 8,691 more 1878, June 16-July 31. He rendered the govt. great aid during the memorable famine in India.

CLOUT, n. *clout* [AS. *clut*, a patch—primary sense, a blow: Gael. *clud*; W. *clwt*, a rag: Dut. *klotsen*, to strike]: a small piece of cloth or a rag; a patch; a piece of cloth or leather to repair a hole or breach; a piece of cloth for cleaning or kitchen use; a flat-headed nail: V. to patch; to mend or repair by putting or sewing on a patch; to put together coarsely and unskilfully. **CLOUT'ING**, imp. **CLOUT'ED**, pp.: **ADJ.** covered with a clout; coarsely mended. **A CLOUT ON THE HEAD**, a blow or stroke on the head, as with a flap of cloth or the open hand. **CLOUTED CREAM**, cream obtained from the milk by gradually heating it in deep pans almost to the boiling point, so as not to break the skin or *clout* formed on the surface; cream thicker than ordinary cream—also spelled **CLOTTED CREAM**.

CLOUTED, or CLOTTED, CREAM: obtained by heating milk in a shallow wide pan on a hot plate or over a slow charcoal-fire. The milk must be strained, as soon as it comes from the cow, into the pan, where it must stand for 24 hours before heating. It usually takes from half an hour to three-quarters of an hour to heat the milk completely; but it must not boil. It then stands for 24 hours, when the cream is skimmed off, and a little sugar thrown on the top. The result is C. C., which, mixed with new milk, is eaten with strawberries, raspberries, tarts, etc. Devonshire, England, is famous for its clouted cream.

CLOVE, v. *klōv*: see under **CLEAVE** 2.

CLOVE, n. *klōv* [Sp. *clavo*, a nail, a clove: F. *clou*, a nail—from L. *clavus*, a nail]: a kind of spice, consisting of the dried unexpanded flowers of a tree of the myrtle tribe—so named from their appearance as small-headed nails; the

CLOVEN.

flower-buds of the clove tree, *Cāryōphyl'lus arōmāticus*, ord. *Myrtācēæ*. CLOVE-GILLYFLOWER, a beautiful flower having a peculiar scent—also called *clove-pink*, *carnation-pink*, etc.; the *Dian'thus cāryōphyl'lus*, ord. *Caryophyllācēæ*. CLOVE-BROWN, a deep brown of the peculiar color of the clove.

CLOVE, n. *klōv* [Low Ger. *kloven*, to cleave: Dut. *klove*, a fissure: AS. *cluf*, a tuber]: a division of a root of garlic; in bot., *cloves*, applied to a young bulbs, as in the onion.

CLOVE, n. *klōv* [probably connected with CLEAVE 2 which see]: a weight, part of the *wey*, being 7 pounds.

CLOVE BARK: another name for CULILAWAN BARK (q.v).—Another bark which occurs in commerce under the name of C. B. is that of the *Myrtus caryophyllata*, native of Ceylon and the Mascarene Isles; in sticks two ft. long, formed of several pieces of very thin and hard bark, rolled up one over the other, of a deep brown color, and of a taste similar to that of cloves. It has properties like those of cinnamon.

CLOVEN, v. *klō'vn* [pp. of CLEAVE 2, which see]: parted; divided into two parts. CLOVEN-FOOTED, having the foot of two toes with a hoof for each, as the ox. TO SHOW THE CLOVEN FOOT, to reveal by some acts base or dishonorable designs—in allusion to the legs and feet of a goat ascribed to Satan.

CLOVER.

CLOVER, n, *klō'vēr* [AS. *claefer*; Dut. *klaver*—from Low Ger. *kloven*, to cleave]: common field herbs called trefoil or *trifolium*, used for the fodder of cattle; the common red clover is *Trifolium pratense*—the white or Dutch clover is *T. repens*, ord. *Legūmīnōsæ*, sub.ord. *Papilionācēæ*. **CLO'VERED**, a. *-vêrd*, abounding in clover. **TO LIVE IN CLOVER**, to live in abundance. **TO GO FROM CLOVER TO RYE-GRASS**, to go from a better to a worse.

CLO'VER, or **TRE'FOIL** (*Trifolium*): genus of plants of the nat. ord. *Leguminosæ*, sub-order *Papilionaceæ*, containing a great number of species, natives chiefly of temperate climates, abounding most of all in Europe, and some of them very important in agriculture as affording pasturage and fodder for cattle. The name C. is indeed popularly extended to many plants not included in this genus, but belonging to the same nat. ord., and agreeing with it in having the leaves formed of three leaflets, particularly to those of them which are cultivated for the same purposes, and sometimes collectively receive from farmers the very incorrect designation of *artificial grasses*, in contradistinction to *natural grasses*, i.e., true grasses. See **MEDICK** and **MELILOT**. The true clovers (*Trifolium*) have herbaceous, not twining stems; roundish heads or oblong spikes of small flowers, the corolla remaining in a withered state till the ripening of the seed; the pod inclosed in the calyx, and containing one or two, rarely three or four, seeds. The most important species to the farmer is the **COMMON RED C.** (*T. pratense*), native of most parts of Europe, grow-



Red Clover (*Trifolium pratense*).

ing in meadows and pastures. It is a perennial, but is generally treated as if it were a biennial. Its heads of flowers are oval or nearly globular, very compact, about

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an inch in diameter, purple, more rarely flesh-colored or white; the tube of the calyx is downy; the stipules run suddenly into a bristly point. The leaflets have very often a whitish horseshoe mark in the centre. This plant was formerly reputed very noisome to witches; knights, and peasants wore the leaf as a potent charm against their arts. It is supposed that C. found its way into England from the Netherlands about the time of Queen Elizabeth; but it was not until the close of last c. that it was introduced into Scotland, where it is now universally prevalent. The ZIGZAG C. (*T. medium*), also called MEADOW C., MARLGRASS, and COW-GRASS, much resembles the common red C., but is easily distinguished by the smooth tube of the calyx, and by the broader, less membranaceous, and gradually acuminate stipules. The stems are also remarkably zigzag, and more rigid than in *T. pratense*; the heads of flowers are larger, more lax, more nearly globose, and of a deeper purple color; and the leaflets have no white spot. It is common plant in most parts of Europe. WHITE or



White Clover (*Trifolium repens*).
a, head of flowers when the pods are ripening.

DUTCH C. (*T. repens*) is also a common native of most parts of Europe. When a barren heath is turned up with the spade or plow, white C. almost always appears. It is said to be a native also of North America, where it is abundant, though perhaps only naturalized. The flowers of all kinds of C. are the delight of bees, but those of this

CLOVER.

species perhaps particularly so.—**ALSIKE C.** (*T. hybridum*), a perennial, regarded as intermediate in appearance between the common red C. and the white C., has of late attained a very high reputation. It was introduced into Britain from the s. of Sweden probably not far from 1850.—**CRIMSON C.**, or **ITALIAN C.** (*T. incarnatum*), an annual, native of the s. of Europe, with oblong or cylindrical spikes of rich crimson flowers, is much cultivated in France and Italy, and has of late been extensively grown in parts of England, producing a heavy crop.—**MOLINER'S C.** (*T. Molineri*) much resembles crimson C., but is biennial, and has pale flowers. It is cultivated in France and Switzerland.—**ALEXANDRIAN C.**, or **EGYPTIAN C.** (*T. Alexandrinum*), an annual species, native of Egypt, universally cultivated there, where it is the principal fodder for cattle, has been found less luxuriant and productive in the colder climate of Britain. It has oval heads of pale-yellow or whitish flowers.—**YELLOW C.**, or **HOP TREFOIL** (*T. procumbens*), is not much esteemed. It has smaller leaves and heads of flowers than any of the cultivated species. Its flowers are yellow.

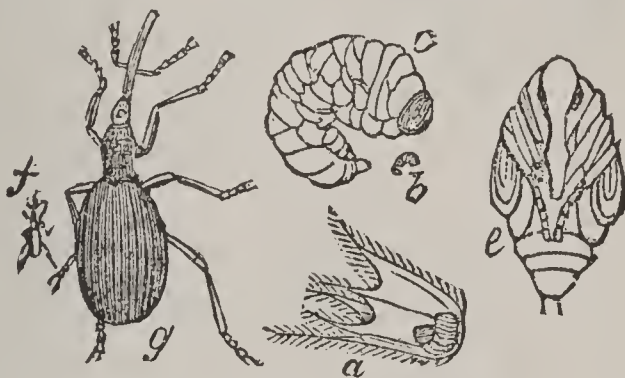
It is little more than a century since clovers were introduced into field-culture in Britain. They are now universally cultivated on large farms in alternation with grain crops. The kinds most generally sown are the *Common Red*, *Cow-grass*, *Dutch White*, *Yellow*, and *Alsike*. The *Common Red* is the finest and most valuable, but it is difficult to grow unless on naturally rich soils. In America it grows well on sandy loams, though sown every alternate year on the same land. But in Britain the land is thought to become 'clover sick' when sown too frequently with this crop. An interval of not less than eight years is thought advisable. From six to 20 lbs. of seed per acre is the quantity sown. Red C. is most esteemed for being mixed with rye-grass for the making of hay. When it grows well, it bears to be cut more than once in a year. *Cow-grass* much resembles the common red clover. It is coarser but hardier, and better suited for pasture, as it bears more herbage, and comes better up after being eaten close down by cattle. *Dutch White C.* is esteemed only for pasture; it grows short and thick on the ground, but throws out fresh stems and flowers during most of the growing season. In the s. of England, it is sometimes sown with but little rye-grass seed; in Scotland as much as a bushel or a bushel and a half of rye-grass is mixed with it for pasture. *Yellow C.* is sown chiefly on ground where neither the white nor red grows freely. It is not sown so frequently as it probably ought to be, for it rises early in spring, and a mixture of it with other clovers forms good pasture on all grounds. *Alsike C.* is a recent and desirable addition in Britain; it rises much higher than white C. Land must be thoroughly cleaned of perennial weeds before it is sown with C., as the land cannot be subjected to cultivation while it is under this plant; C., therefore, is always sown in the end of the rotation, or as near the fallow or turnip crop as possible. It is sown early in spring among the winter-wheat, or with

CLOVER-WEEVIL—CLOVES.

the barley crop, and slightly harrowed in; for the seeds, being small, are not difficult to bury. Farm-yard manure is as good as any for clovers. A well-manured soil greatly assists in keeping the plants from dying out in spring. Clovers, like grasses, have an important use in restoring fertility to land exhausted by grain-crops. Their leaves gather food—carbonic acid and ammonia—from the atmosphere, which they store up in their roots and stems; and these, decomposing, afford food for cereals or other crops which are more dependent on a supply within the soil.

The caterpillars of a number of species of moth feed on the leaves of different kinds of C.; but the insects most injurious to C. crops are weevils of the genera *Apion* and *Sitona*: see CLOVER-WEEVIL and PEA-WEEVIL.

CLOVER-WEEVIL (*Apion*): genus of small pear-shaped weevils (coleopterous insects, section *Tetramera*, family *Rhynchophora*), different species of which feed on the leaves, and their larvæ on the seeds of clover, some also on those of tares and other leguminous plants. Like the other weevils the perfect insect has the head very much elongated into a sort of muzzle. *A. apricans* often does much injury to fields of common red clover, particularly interfering with the production of seed. It lays its eggs among the flowers, and the little grubs eat their way through the calyx into the pod. It is of a bluish-black color, little more than a line long. *A. flavipes* is attached



Red Clover Weevil (*A. apricans*):

a, maggot in calyx, slightly magnified; *b*, larva; *c*, larva, magnified; *e*, pupa, magnified; *f*, female beetle; *g*, female beetle, magnified.

in like manner to white clover, and other species of clover have their particular weevils.

CLOVES: flower-buds of the Clove tree (*Caryophyllus aromaticus*). The genus to which this tree belongs is of the nat. ord. *Myrtaceæ*; the calyx has a cylindrical tube and 4-cleft border, the corolla consists of four petals united by their tips; the stamens are in four clusters; and the fruit is an oblong, dry berry with one or two cells and as many seeds. The clove tree is from 15 to 40 ft. high, with a beautiful pyramidal head. The leaves are large, ovate-oblong, acuminate at each end, evergreen; the flowers are small, but produced in great profusion in cymes. Leaves, flowers, and bark have an aromatic odor. The ripe fruit in shape resembles an olive, but is not quite so large; it is

CLOVES.

of a dark-red color; it sometimes appears in commerce in a dried state, under the curious name of *Mother Cloves*; it has an odor and flavor similar to C., but much weaker: the broken fruit-stalks are sometimes also used for the same pur-



Cloves:

a, a branch with leaves, buds, and flowers; *b*, a bud.

poses as C.; but the flower-buds themselves are the principal, useful product of the tree. They are gathered, and are dried by exposure to the smoke of wood fires, and afterward to the rays of the sun, or by the latter alone. When first gathered they are reddish, but become of a deep-brown color. The unexpanded corolla forms a little round head at the end of the calyx tube, which is about half an inch long, and thus the appearance is not unlike that of a little nail, whence the name. The clove tree is a native of the Moluccas, and the Amboyna C. are still esteemed the best; but the tree is now cultivated in Sumatra, Bourbon, Mauritius, and some parts of the W. Indies, and will probably soon be common in many other tropical countries. The Dutch, to secure to their own colonists a monopoly of the trade in this spice, destroyed the trees in the other Molucca Islands, and confined the cultivation of them to the isle of Ternate. It is not deemed quite certain that C. are the *karyophyllon* of the ancient Greeks; but before the discovery of the Spice Islands eastern merchants brought them from Arabia, Persia, and Egypt, to the harbors of the Mediterranean, from which the Venetians and Genoese diffused them over Europe.

The wild clove-tree of the W. Indies is *Myrcia acris*: see MYRCIA.

The properties of C. depend chiefly on an essential oil, *Oil of C.*, which forms one-fifth or one-sixth of their whole weight. They are used for flavoring dessert dishes and articles of confectionery. They have a hot taste and a characteristic odor. The oil of C. is obtained by repeatedly distilling C. with water, when two oils pass over, one of which is lighter, and the other is heavier than water. The oil has a hot, acrid taste, is of a light yellow when pure, and brown red when not so carefully prepared. It has a well-known odor, and is soluble in ether, alcohol, and the fixed oils. It is useful in medicine to check nausea and griping caused by the administration of purgatives. It is also employed in the scenting of soap, and by the distiller. *Tincture of C.* is obtained by treating C. with alcohol for several days, and then straining, or by a solution of the oil of C. in spirits of wine. It is added, in medicine, to stomachic, tonic, and purgative mixtures.

CLOVIS, *klō'vis*, Fr., *klo-vēs'* [old Ger. *Chlodwig*, i.e., 'famous warrior;' modern Ger. *Ludwig*; Fr. *Louis*], King of the Franks: 465–511: by the death of his father, Childeric, he became king of the Salian Franks, whose cap. was Tournay. His first achievement was the overthrow of the Gallo-Romans under Syagrius, near Soissons. He then took possession of the whole country between the Somme and the Loire, and established himself in Soissons. In 493, he married Clotilda, daughter of Chilperic, a Burgundian prince. His wife was a Christian, and earnestly desired the conversion of her husband, who, like most of the Franks, was still a heathen. In a great battle with the Alemanni, at Tolbiac, near Cologne, C. was hard pressed, and as a last resource, invoked the God of Clotilda, offering to become a Christian, on condition of obtaining the victory. The Alemanni were routed, and on Christmas day of the same year (496) C. and several thousands of his army were baptized by Remigius, bp. of Rheims: see CLOTILDA, SAINT. Most of the western Christian princes were Arians, but C. was strictly orthodox, and, in consequence, was saluted by Pope Anastasius as the 'Most Christian King.' In 507, love of conquest concurring with zeal for the orthodox faith, C. marched to the s.w. of Gaul against the heretic Visigoth, Alaric II., whom he defeated and slew at Vouglé, near Poitiers, taking possession of the whole country as far as Bordeaux and Toulouse, but was checked at Arles, 507, by Theodoric, King of the Ostrogoths. C. now took up his residence in Paris, where he died. His great aim was the subjugation of all the Frankish princes, and the union of the whole Frankish people into a single powerful kingdom. The means he employed to secure this end were cruel and unscrupulous, but the end itself would have been very beneficial, if he had not frustrated it at his death by re-dividing the newly organized realm among his four sons, and exposing it to the very perils from which he had rescued it.

CLOWN, n, *kłown* [Icel. *klunni*, a clumsy fellow: N,

CLOY—CLUB.

Fris. *klönne*, a clown: **Dut.** *kloete*, a lump, a block: **Ger.** *klotz*, a log; *klotzig*, blockish, rustic—*lit.*, a lumpish or blockish man]: a peasant; a rustic; one who has the rough manners of a rustic; an ill-bred man; one who plays the fool in a theatre or circus. **CLOWN'ISH**, a. like a rustic; coarse and ill-bred. **CLOWN'ISHLY**, ad. *-lī*. **CLOWN'ISHNESS**, n. rudeness of behavior; awkwardness.--**SYN.** of 'clown': peasant; countryman; hind; rustic; swain; buffoon; fool;— of 'clownish': rough; clumsy; coarse; ungainly; awkward; rustic; rude; uncivil; boorish; ill-bred.

CLOY, v. *kloy* [**Eng.** *clog*, a thick mass: **OF.** *cloyer*, and *encloyer*, to choke or stop up: comp. **Gael.** *claoīdh* (*dh* is silent), to exhaust, to satiate]: to fill to loathing; to be incapable of further enjoyment by excess of indulgence; to satiate; to glut; to surfeit. **CLOYING**, imp. **CLOYED**, pp. *kloyd*, filled; glutted. **CLOY'LESS**, a. that cannot cause satiety. **CLOY'MENT**, n. satiety or repletion.

CLOYNE, *kloyn*: ancient episcopal town, in the s.e. of Cork county, Ireland, 15 m. e. by s. of Cork. The see was founded in the 6th c. by St. Colman, the abbey 707, and the cathedral in the 13th c. Near the cathedral is a round tower 92 ft. high. About 1430 the see was united to that of Cork, separated 1678, and reunited 1835. There are valuable marble quarries near. Berkeley was born here, and was Bp. of C. 1678. Brinkley, the astronomer, was also Bp. of Cloyne. Pop. (1861) 1,713; (1871) below 1,500; (1881) only 1,126.

CLUB, n. *klūb* [**W.** *clob*, a knob: **Russ.** *klub'*, a ball: **Sw.** *klabb*, a log: **Icel.** *klubba*, a knobbed stick: **Gael.** *cliob*, an excrescence; *līb*, a bend]: a stick with one end heavier than the other; a thick, heavy stick or cudgel for beating or defense; a principal war weapon in ancient times, and now in barbarous countries; a number or *clump* of persons associated for some common purpose; the name of one of the suits of cards—so named from the knobbed appearance of the figures, being that of a black trefoil: **V.** to unite for some common end; to pay a share of a common reckoning; to beat with a club; to turn up and place together the club-ends of a number of rifles. **CLUB'ING**, imp. **CLUBBED**, pp. *klūbd*: **ADJ.** shaped like a club. **CLUB'BIST**, n. one who belongs to a club or association. **CLUB-FISTED**, a. having a large, heavy fist; rough; awkward. **CLUB-HOUSE**, a place of resort for the members of a club. **CLUB-LAW**, brute force. **CLUB-FOOT**, n. a deformed foot. **CLUB-FOOTED**, a. having crooked or misshapen feet. **CLUB-MOSS**, a moss-like plant of the ord. *Lycōpōdiācēæ* (q.v.). **CLUB RUSH**: see **SCIRPUS**. **TO CLUB A MUSKET**, to use it as a club by holding the barrel and striking with the butt-end. *Note.*—**CLUB** in the sense of 'a number of persons' may be derived from mid. L. *clubum*, a little chamber or cell, in the same way as *chamber* in a derived sense denotes 'an association.'

CLUB: term applied to a company or association for some common purpose, whether social, literary, political, or

economical; usually a body of persons meeting for social or recreative purposes, and consisting of members belonging for the most part to some one class or occupation. What is known as club-life, as exhibited in London, had its origin in the days of Elizabeth, when the Mermaid Tavern, in Fleet street, enlivened by the wit and wisdom of Shakespeare, Raleigh, Ben Jonson, Beaumont, and Fletcher, became the home of a sort of club. Ben Jonson afterward founded a second C. at the Devil Tavern, in the same street. Such clubs were meetings for social recreation, to which all were welcome who could bring wit and humor with them. In subsequent reigns, meetings of a similar racy character were very frequently held in taverns, but without much club formality. In last century Brooks's and White's clubs, and a few others named after the proprietors of the houses in which the meetings were held, were established by politicians of opposite parties, as the head quarters for parliamentary tactics.

The modern clubs of London, in which the *restaurant* or dining-room is an important feature, arose after the termination of the great war in 1815. Many naval and military officers, being no longer needed for war, were placed upon half-pay; and this half-pay was insufficient to support them without careful economy. If they could dine together at a C., it would be cheaper than if each maintained a separate establishment. Hence originated the United Service C.; and the success of this speedily led to the founding of others for different classes of society, and for persons of different political opinions. At the present time there are about 100 such clubs in London, among which the following: Alpine, Army and Navy, Arthur's, Athenæum, Brooks's, Carlton, Civil and Military, Conservative, East India United Service, Garrick, Guards', Junior Carlton, Junior United Service, Naval and Military, New University, Oriental, Oxford and Cambridge, Reform, Travellers', Union, United Service, United University, White's, Whitehall, and Windham's. All these, and some of the others, combine the *tavern* system with the *club* system. There are also about 20 working-men's clubs. Clubs are not confined to the metropolis.

Each principal C. comprises a certain definite number of members; it may be, for instance, 500, 1,000, or 1,500, and this number cannot be exceeded without a formal change in the rules. In some clubs the managing committee are empowered to admit distinguished persons to membership; but the general mode of admission is by ballot, each member having a vote. In some clubs one black ball or 'No' suffices to exclude a candidate; but, generally, the rules are not so stringent. The members pay a sum of money on entrance, and then an annual subscription, the amounts varying much in different clubs. The entrance money may be required as capital, to assist in building the club-house, etc.; while the annual subscriptions, after paying current expenses, leave a surplus for future contingencies. The more important clubs comprise morning or news rooms, libraries, coffee-rooms, din-

CLUBBING.

ing-rooms, drawing-rooms, and a very complete culinary establishment. There are no arrangements for the members to sleep at the club-houses, except at certain establishments called club-chambers, which, however, are not properly clubs. Some of the clubs are furnished with bath-rooms, card-rooms, billiard-rooms, and smoking-rooms. The *restaurant* department is usually very complete; everything is of the best, and is supplied to the members as nearly as can be at prime cost. In nearly all the clubs hard drinking is discouraged. It has been ascertained at two or three of them that the average cost of dinners is about half a crown, and that the wine scarcely exceeds half a pint to each dinner.

Some of the club-houses rank among the most elegant modern buildings in London. The Carlton, the Reform, the Conservative, and the Army and Navy club-houses are especially noticeable.

In New York and other great cities of the United States clubs are numerous and prosperous. Many of them have splendid buildings, and are superb in all their appointments. The regulations and arrangements are not greatly different from those of the chief London clubs.

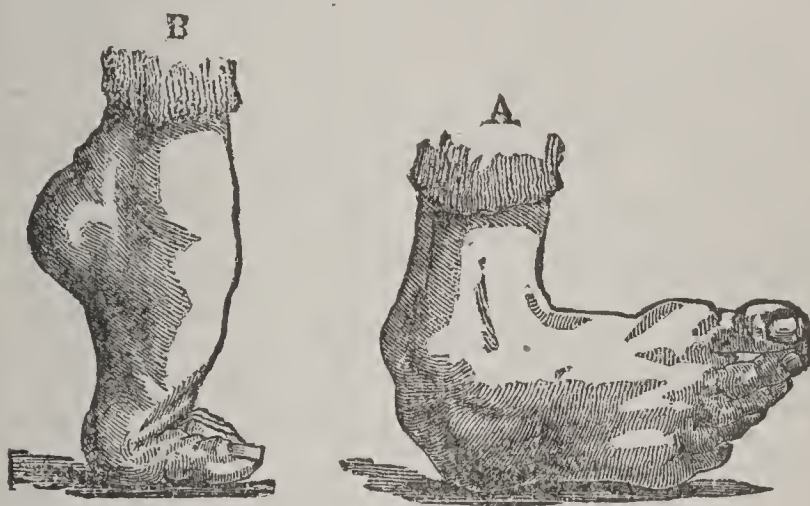
Before the first Revolution it was attempted to form political clubs in Paris on the English plan, but they were prohibited by the police. With the meeting of the national assembly, and the outbreak of the Revolution, about 1789, political societies sprang into unwonted activity. These associations mostly assumed the English name, such as the Club des Feuillans and the Jacobin Club; but they had quite a different character; they were popular societies. In them were concentrated the great political parties of the nation, by means of systematic organization and affiliation. The Jacobin Club thus came, in the end, to embrace all France, and to rule it. Similar associations sprang up in Germany, Italy, Spain, and wherever the revolution took any root. In Germany these unions were prohibited in 1793 by a law of the empire; and the prohibition of all political unions and meetings was renewed in 1832 by an act of the Germanic confederation. The suppression of the clubs in France followed the extinction of the revolution, and their place has since been taken by secret societies. After the revolution of 1848, clubs revived in great force in Italy and Germany, after the style of the first French Revolution, but speedily came to an end along with that which had given them birth.

CLUBBING, in cabbages, turnips, and other plants of the genus *Brassica*: diseased growth of tubercular excrescences in the upper part of the root or lower part of the stem, caused by the larvæ of the cabbage fly (q.v.), and of other insects, by which the vigorous growth of the plant is prevented, and crops are often much injured. It is common for gardeners to cut away these excrescences, with their contained larvæ, in planting out young cabbages, etc.; and where they are not so numerous that the injury done by the knife is necessarily great, this plan succeeds very well. Dressings of quicklime, wood-ashes, etc.,

CLUB-FOOT.

have been recommended, and appear partially successful in preventing this evil, probably by deterring the parent insect from approaching to lay her eggs; but change of crop, when practicable, is of all things the most commendable. C. is sometimes confounded with anbury (q.v.), from which it is quite distinct.

CLUB'-FOOT [*L. talipes*]: a distortion or twisting of the foot by one or more of its muscles being permanently shortened. It may exist from birth, or occur in early childhood after convulsive fits. Surgeons recognize four



Club-feet.

A, *Talipes Varus*; B, *Talipes Equinus*.

varieties of C.: turning inward (*varus*), outward (*valgus*), downward, with elevation of the heel (*equinus*), or upward, with depression of the heel (*calcaneus*).

As age advances, the bones alter in form from the pressure exerted upon them, the ligaments shorten, and the foot becomes rigidly molded in its unnatural position. It cripples the person's movements, and in many instances has proved a great affliction. Lord Byron's whole life seems to have been embittered by one of his feet being inverted.

Although Lorenz, in 1784, cut the tendo Achillis to lower the heel in talipes equinus, yet, owing chiefly to the dangers of cutting across tendons, C. was practically incurable till 1831, when Dr. Little, of London, having himself a C., after seeking relief from many surgeons at home and abroad, found his way to Dr. Stromeyer, at Erlangen. This ingenious surgeon introduced a narrow-bladed knife, and divided the tendons of the contracted muscles with such a small external wound that scarcely any inflammation resulted. Dr. Little, being cured, published a treatise on the subject, and at the present day no deformity of the foot is considered irremediable. However, it must be remembered that the division of tendons must be followed by judicious manipulations, and generally by the application of some suitable apparatus to prevent the foot returning to its former position. Of such apparatus, Scarpa's shoe, as it is termed, is most frequently in use.

CLUB-RUSH—CLUMSY.

CLUB'-RUSH: see SCIRPUS.

CLUCK, n. *klūk* [an imitative word: Gael. *gloc*; Dut. *klocken*; Dan. *klukke*, to cluck: Sp. *cloquear*]: the call of a hen to her chickens, or the noise she makes when hatching: V. to call or cry as a hen does to her chickens. CLUCK'ING, imp. CLUCKED, pp. *klūkt*.

CLUE, n. *kló* [see CLEW]: a key to; a guide.

CLUGNY, or CLUNY, *klü-nē'*: town of France, dept. of Saône-et-Loire, 12 m. n.w. of Mâcon, on the left bank of the Grône, an affluent of the Saône. It is noted for its antiquities, chiefly for the famous Benedictine abbey, founded 910, together with the basilica of Notre Dame, built in the 13th c. C. reached its highest prosperity in the 12th c., and had 2,000 dependent houses scattered over Europe. Here Bernard de Morlaix composed the poem *De Contemptu Mundi*, which Dr. Neale considered the loveliest of mediæval lyrics; often printed of old, it was forgotten, to be disinterred by Abp. Trench, and universally known and sung (in part) in Neale's noble version. Here popes Gregory VII., Urban II., and Pascal II. were trained, and 10,000 monks sheltered at one time. Here Peter the Venerable gave an asylum to Abelard. The abbey church, consecrated by Innocent II., was 656 ft. long by 130 wide, the largest in Europe before the erection of St. Peter's at Rome. The buildings were much injured by the Huguenots 1562; the monks were expelled 1789, and the basilica plundered, sold, and most of it pulled down 1792. Parts of it have been restored and used for a normal school, while the abbot's palace now holds a library and a museum. Many records were burned, with religious books, by the mob 1793, and the library was again scattered; it was generally supposed that nothing had been spared, but 1829 no less than 225 folio and quarto volumes of charters and mss. were discovered in the town hall, of which many are preserved in the Bibliothèque Nationale, Paris, and some have found their way to the British Museum. For those relating to England, see Sir G. F. Duckett's *Record-Evidence of Cluni* (1886), and *Charters and Records of Cluni* (1888). See also the works of Pignot, historian of the order, Lorain, Penjon, Cuchérat, and Champly.

The Hôtel de Cluny in Paris was built as a town-house by an abbot of C. about 1480, confiscated 1790, bought by the city 1842, presented to the govt. and used to house the Sommerard archaeological collection. A Collège de C., founded by Ives de Vergy 1269, no longer exists. C. has a considerable agricultural trade, and there are manufactures of pottery, paper, and vinegar.

CLUMP, n. *klūmp* [Dan. *klump*, a lump, a clump: Icel. *klumbr*, a lump: Dut. *klomp*; Ger. *klumpen*, a clod, a mass]: a short, thick, or shapeless piece of matter; a cluster of trees or shrubs. CLUMPS, n. *klūmps*, a stupid fellow.

CLUMSY, a. *klūm'zī* [OE. *clomsid*, stiffened with cold: Sw. *klumpig*, clumsy; prov. Sw. *klummsen*, benumbed with cold: Icel. *klumsa*, suffering from cramp (see CLUMP)]: awkward and inefficient, like one benumbed with cold; unskilful; slow: heavy; ill-made; ungainly; uncouth. CLUM'

CLUNCH—CLUSIA.

SILY, ad. -*lŭ*, in a clumsy manner; awkwardly; ungracefully. **CLUM'SINESS**, n. the quality of being clumsy; awkwardness.

CLUNCH, n. *klŭnsh* [from **CLING**]: among *miners*, any tough, coarse clay, such as is sometimes found in the coal measures, or in the newer strata. The term has also been applied to the lower and harder beds of the cretaceous rocks, sometimes used for the stone-work of the interior of churches.

CLUNG, v. *klŭng*: see under **CLING**.

CLUNIAC, n. *klŏ'nŭ-ăk*: one of a reformed order of monks of the Benedictines, so called from *Clugni*, or *Cluny* in France: the order was founded 909, and at one time its convents numbered more than 2,000. The French assembly suppressed it 1790.

CLUPEIDÆ, *klŏ-pē'ŭ-dē*: important family of malacopterous (q.v.) fishes, nearly allied to the *Salmonidæ*; and differing from them chiefly in the want of an adipose fin. They all are scaly fishes, but the scales are very easily detached. None of the fins have any spinous rays. The ventral fins are nearly in the middle of the body. The dorsal fin is always solitary. The gill-openings are very large. The teeth are small, and generally numerous. The maxillary bones are composed of three pieces, easily separated. The body is generally elongated, and much compressed; the belly thin and almost reduced to a sharp edge, frequently denticulated by the edges or points of a series of small bones attached to the skin. The air-bladder is always large; the roe consists of a vast number of eggs. The fishes of this family are almost exclusively marine, only a few of them ascending rivers. They generally congregate in shoals, and some of them periodically visit certain coasts in vast multitudes. They are very widely diffused over the world; some of the particular species have a wide geographic range. To this family belong the herring, pilchard, sprat (*karvie*, *kilkie*), anchovy, sardine, white bait, etc. (see these titles). The herring may be regarded as the type of the order of the genus *Clupea*. But the genera most important in an economical point of view have been very differently distinguished by different ichthyologists.

CLUPESOCIDÆ, *klŏ-pē-sŏs'ŭ-dē*: family of malacopterous fishes, named as exhibiting characters intermediate between those of the *Clupeidæ* (herring, etc.) and of the *Esocidæ* (pike, etc.). Some of them are marine, and some are fresh-water fishes. They are mostly tropical. To this family belongs the interesting genus *Arapaima* (q.v.), and the genera *Heterotis* and *Butirinus*, containing fishes of very curious structure and appearance, highly prized for the table.

CLURE, n. *klŏr*: in *Scot.*, a bump or dint that has arisen from a blow; an indentation or defacement.

CLUSIA, *klŏ'zŭ-a* [named in honor of the great botanist L'Ecluse or Clusius]: genus of tropical trees and shrubs of

CLUSIUM—CLUSONE.

the nat. ord. *Guttiferae* (q.v.) or *Clusiaceae*, some of which are commonly called Balsam trees, from their resinous or balsamic products. They are very often *epiphytes*, growing on larger trees, over the bark of which their roots spread in search of chinks or decayed parts where they may obtain nourishment, and if it cannot be obtained in sufficient quantity, a root is sometimes sent straight down to the ground, and in due time becomes a kind of stem. The fruit is peculiar, a subglobular capsule, with a number



Clusia Rosea:

1, an expanded flower; 2, a calyx seen from below; 3, the ovary, with a part of the calyx cut away; 4, a transverse section of a fruit.

of cells, opening as by meridian lines from top to base. *C. rosea*, a native of the W. Indies and tropical parts of America, yields an abundant resin, used as an external application in veterinary medicine, and for covering boats instead of pitch. A great quantity of resin exudes from the disk of the flowers of *C. insignis*, the WAX-FLOWER of Demerara, which is used to make a gently stimulating and soothing plaster. This is one of the productions of Demerara, to which the colonists, in preparation for the 'Great Exhibition' (of 1862), sought to draw general attention.

CLUSIUM: see CHIUSI.

CLUSONE, *klô-so'nā*: town of Lombardy, n. Italy, near the left bank of the Serio, 17 m. n.e. of Bergamo. It

CLUSTER—CLYDE.

has manufactures of linen, a trade in corn and iron, and in the neighborhood are vitriol works and copper foundries. Pop, 3,000.

CLUSTER, n. *klūs'tér* [Dut. *klissen*, to stick together; *klister*, paste, also a cluster: Icel. *klaster*, an entanglement, a bunch]: a bunch; a number of things of the same kind growing or grouped together, as a *cluster* of raisins, a *cluster* of bees: V. to unite or grow in a bunch or bunches; to collect into a flock, crowd, or close body. **CLUS'TERING**, imp. forming clusters. **CLUS'TERED**, pp. *-tèrd*, collected in clusters. **CLUS'TERINGLY**, ad. *-lǐ*. **CLUS'TERY**, a. *-tér-ǐ*, growing in clusters. **CLUSTER-CUPS**, small fungi parasitic on leaves.

CLUS'TERED COL'UMNS, or **COMPOUND PIERS**: one of the richest features in Gothic ecclesiastical architecture. The columns or shafts are sometimes attached to each other through their whole length, sometimes only at the base and capital. When surrounded by floriated fillets, they have been very aptly compared by Sir Walter Scott to 'bundles of lances that garlands have bound.'

CLUTCH, n. *klüch* [Scot. *cleik*, to snatch; *cluik*, an instrument for seizing: Swiss, *klupe*, claws: Gael. *glac*, to seize or grasp]: a grasping with the hands eagerly or greedily; a firm grasp or gripping with the hands by tightening the fingers; a seizure; a grasp: V. to seize firmly with the hand; to grip; to grasp with the hands eagerly or greedily. **CLUTCH'ING**, imp. **CLUTCHED**, pp. *klücht*. **CLUTCHES**, n. plu. *klüch'iz*, claws; hands, in the sense of rapacity and cruelty. **IN THE CLUTCHES**, in the power of, in a bad sense.

CLUTTER, n. *klüt'tér* [another form of *clatter*]: a rattling noise; a bustle: V. to make a confused noise. **CLUT'TERING**, imp. **CLUT'TERED**, pp. *-tèrd*.

CLWYD, *klwöd*: river of n. Wales; rises in the Bronbanog Hills, in the s.w. of Denbighshire, and runs 30 m., first s., then e.n.e., and lastly s., through Denbigh and Flint shires, past Ruthin, St. Asaph, and Rhuddlan, into the Irish Sea. Below Ruthin, and between barren hills, lies the fertile, populous, and level vale of the C., 15 m. long by five to seven wide. At St. Asaph the C. receives the Elwy, 20 m. long, from the w. and increases much in size. It then enters the fertile and extensive marsh of Rhuddlan, and falls into the sea by a small estuary. It is navigable for vessels of 70 tons up to Rhuddlan, two m. from its mouth.

CLYDE, *klid*: river in the s. of Scotland, the only great British river, besides the Severn, flowing w. Commercially it is the most important river in Scotland, and the romantic beauty of its scenery is widely celebrated. It rises by several large streams in the semicircular range of the Lead, Lowther, and Moffat Hills, and drains the shires of Lanark, Renfrew, and Dumbarton. The main and southmost source, the Daer, runs n., and receives the Powtrail, the Clyde (a smaller stream, after junction with which, the main stream is called the C.), and other streams, preserving

CLYMENIA—CLYMER.

its mountain character to Robertson. More than 20 m. below the source of the Daer. The C. then bends round Tinto Hill toward Biggar,* whence it flows n.w.w. and s.w. to about four m. above Lanark, thence pursuing a n.w. course through Lanarkshire, and between Dumbarton and Renfrew shires, past Lanark, Hamilton, Glasgow, Renfrew, and Dumbarton, near which town it opens into the Firth of Clyde. In this course it receives a number of streams, and flows through a rich, fertile, wooded valley, often extending into level plains, and often with bold wooded banks. From two m. above to four m. below Lanark occur the celebrated Falls of the C., a series of cascades and rapids, the largest in Scotland for quantity of water—the total descent, in the course of six m. being 230 ft. over old red sandstone rocks, amid very picturesque scenery. Three of the falls are above, and one below Lanark. Bonington Linn, two miles above Lanark, is a cascade of 30 ft. with some parts only four ft. broad. Corra Linn, half a mile below the last, is the grandest fall, forming three distinct leaps—in all, 84 ft. high. Dundaf Fall is 10 ft. high. Stonebyres Linn, two m. below Corra Linn, forms three distinct falls—in all 70 ft. Below Glasgow, the C. expands into an estuary, navigable by the largest vessels, and at Greenock it attains a breadth of about four m. Opposite this point it communicates with the Gareloch, and a little below with Loch Long on the n. Its course, which from Glasgow has been w.n.w., now turns suddenly s., in which direction inclining a little to the w., it continues between Argyle and Bute, and Cantire on the w., and Renfrew and Ayr shires on the east, until it becomes identified with the North Channel at Ailsa Craig, where its breadth is about 30 m. The C. from its source to Glasgow is, by its windings, 75 m. long, and from Glasgow to the south end of Cantire, 48 m. Its basin occupies 1,500 sq. m., and consists of carboniferous strata and trap rocks, the latter chiefly forming the bordering mountains. Floods sometimes raise its waters 20 ft., and it has changed its course at Renfrew, which was anciently close to it. Clydesdale, or the valley of the C., is noted for its coal and iron mines, orchards, and horses. Bell, in 1812, launched on the C. the first boat in Europe successfully propelled by steam.

CLYMENIA, n. *klī-mě'ně-ă* [L. *Clymēnē*, a sea nymph]: in *geol.*, a genus of nautiloid shells.

CLYMER, *klī'mēr*, GEORGE: 1739–1813, Jan. 23; b. Philadelphia: a signer of the Declaration of Independence. Orphaned at the age of seven, he was brought up to business by an uncle, whose fortune he inherited. He became prominent at the 'tea-meeting,' 1773, Oct. 16, was a member of the council of safety and one of the first continental treasurers, exchanged his specie for paper, was elected to the continental congress, 1776–77 and 1780, and served on numerous committees and commissions relating

* In very high floods, the waters of the Clyde sometimes overflow in the boggy ground there, and a portion runs into the Biggar Water, and so into the Tweed.

CLYPEATE—CNIDUS.

to the war. His house in Chester co. was sacked by the British 1777. He was a member of the Penn. legislature, 1784, of the convention which framed the federal constitution, and of the first U. S. congress 1788-90, collector of the duty on spirits 1791 (which led to the whisky riots in Penn.), and a negotiator of the treaty with the Creeks and Cherokees 1796. After this he withdrew from public life. He was an organizer of the Bank of N. America 1780, pres. of the Penn. Bank and of the Acad. of Fine Arts. and founder of the Penn. Agricultural Soc. He died at Morrisville, Bucks co., Pennsylvania.

CLYPEATE, a. *klĭp'ē-āt* [L. *clypĕŭs*, a shield]: in *bot.*, having the shape of a shield; also CLYPEIFORM, a. *klĭp'-ĕ-ĭ-faŭrm* [L. *forma*, shape].

CLYSTER, n. *klĭs'tēr*, also ENEMA [F. *clystère*—from L. *clyster*, that which washes out—from Gr. *klustēr*—fr. Gr. *kluzo*, I wash or rinse]: an injection into the bowels; medicine administered in the liquid form by the rectum, or lower end of the intestine. It is used either for the purpose of procuring evacuation of the bowels, or of conveying stimulating or nourishing substances into the system. For the latter purpose wine and beef-tea, or milk, in quantities of a few ounces at a time, are employed; for the former, simple warm or cold water in sufficiently large quantity to distend the bowels, and produce evacuation; or in special cases, various cathartics may be used in addition, such as colocynths, aloes, castor oil, or turpentine made into an emulsion with yolk of egg, and sometimes carminatives, to expel air. Narcotic clysters are also employed, but should be used only under medical superintendence. An injecting syringe, with a flexible tube and a double-action valve, is usually employed in the administration of this remedy.

CLYTEMNESTRA, *klĭt-ĕm-nĕs'tra*, in Homeric Legend: daughter of King Tyndareus and of Leda, and twin sister of Helena. She became the wife of Agamemnon, and bore him a son, Orestes, and two daughters, Iphigenia and Electra. During the absence of Agamemnon, on his expedition to Troy, she formed a connection with Ægisthus. murdered her husband on his return, and reigned for seven years with Ægisthus, till she was murdered by her own son, Orestes.

CLYTIE, *klĭt'ĭ-e*: nymph of classic mythology, daughter of Oceanus and Tethys. She was in love with Apollo, who deserted her for Leucothe. Failing to regain his affection she pined away, and was changed to a sunflower, which was supposed to turn its head to follow the sun in his course—Apollo being the sun-god.

CNIDÆ, n. plu. *nĭ'dē* [Gr. *knidē*, a nettle, because it stings—from *knaō*, I excite itching]: the urticating cells, or thread-cells, which give many of the cœlenterata power to sting.

CNIDUS, or GNIDOS, *nĭ'dŭs*: city on the promontory of Triopion (now Cape Krio), in Caria. Asia Minor; a Lace-

CNOSSUS—COACH.

dæmonian colony, one of the six cities of the Doric league. C. (according to Strabo) had two ports, one of which could be closed. In front of what was the town lies a lofty island, about six hundred yards long, connected with the mainland by a causeway (now a sandy isthmus). The s. port was formed by two moles, carried into the sea to the depth of nearly 100 ft., one of which is nearly perfect at the present day. The city was famous for several temples of Venus, then sometimes called the Cnidian goddess. One of these temples contained the famous statue of the naked Venus by Praxiteles. It was of Parian marble, and so beautiful that Nicomedes, king of Bithynia, offered, in return for this master-piece of Grecian sculpture, to pay the entire debt of the city, which was very large. The Cnidians, in the excess of their devotion to art, refused. During the wars in ancient times, C. was often mercilessly plundered. The site of the city is 'covered with ruins.'

CNOSSUS, or GNOSSUS, *nos'sus*: chief city and traditional cap. of Crete; on the Cæratús, three m. from the n. coast; lat. $35^{\circ} 20'$ n., long. $25^{\circ} 10'$ e. First settled by Dorians, it retained their customs and institutions. According to mythology, it was built by King Minos; Zeus was born and married in the neighborhood; Dædalus here constructed the labyrinth where the Minotaur was confined, whence Dædalus himself escaped on wings of his own fabrication, and Ariadne was delivered by Theseus. C. was mentioned by Homer as a great city; it dominated the island till Gortyna and Cydonia grew into power, and always had a large share in the intestine wars. It fell under Roman dominion with the rest of Crete. Ænesidemus the skeptic, and Chersiphron, the architect of the temple of Diana at Ephesus, were born at C. Only portions of its wall remain; the modern village is called Makro Teikho.

CO, *kō* [L. *cum*; Gr. *sun*, with, together: It. *con*]: a form of the prefix *con*, and means, with; together; together with; *co* is used before a vowel and *h*, as *coalesce*, *cohabit*, and when the word begins with an *o*, it is separated by a hyphen, as *co-operate*, *co-ordinate*; in *math.*, *co* is an abbreviation of *complement*, as *co-latitude*, *co-sine*, *co-tangent*. *Note*.—The prefix *con* assumes the various forms of *co*, *cog*, *col*, *com*, *cor*, according to the first letter of the second element of the compound; thus, 1, *con* becomes *com* before *b* and *p*, as *combustion*, *compel*; 2, *con* is retained before *f* and *v*, except in *comfort*, as *conflict*, *convene*; 3, *con* is retained before *t*, *d*, *q*, *g*, and *s*, as *content*, *condole*, *conquest*, *congeal*, *consent*.

COACH, n. *kōch* [F. *coucher*, to lie down: Dut. *koetsen*, to lie, to put to bed: Dut. *koetse*, a couch, a coach]: a close four-wheeled carriage having a front and back seat. V. to travel in a coach. COACH'ING, imp. COACHED, pp. *kōcht*. COACH-BOX, the seat on which the driver sits. COACH'FUL, n. -*fūl*, enough to fill a coach. COACHMAN, n. the driver of a coach. *Note*.—Skeat suggests F. *coche*, a large boat, a coach—from L. *concha*, a conch-shell, in *mid. L.*, a little boat, as the etymon of *coach*.

COACH, v. *kōch* [familiar slang in the sense of driving

COACH.

and forcing]; to prepare for an examination by cramming: *n.* a special tutor who assists in preparing for examinations. COACH'ING, *imp.*: *N.* the cramming for an examination. COACHED, *pp.* *kōcht*.

COACH: general name for an inclosed vehicle drawn by horses, designed for the conveyance of passengers, as distinguished from a wagon or cart, for the conveyance of goods. The invention of such vehicles has been claimed by Hungary, England, France, Spain, and Germany. The earliest record found by Beckmann relates to about the year 1280, when Charles of Anjou entered Naples, and his queen rode in a *caretta*—apparently a small but highly decorated car, from which the modern *charet* or *chariot* was



State Carriage of Queen Elizabeth:
From Hoefnagel's print of Nonsuch Palace.

derived, as well as other vehicles named *chares* and *charrettes*. It is believed that most of these cars had broad wheels, the only form suited for the wretched roads of those ages; and it is certain that all those of early date were open overhead. Many of the coaches used by the continental princes and nobles in the 16th c. were closed only to this extent—that they had canopies supported by ornamental pillars, and curtains of cloth, silk, or leather, which could be drawn easily aside. A *glass C.*, or *C.* with glass windows, is specially mentioned as being used by an infanta of Spain, 1631. The traces of the coaches were at first made of rope; those belonging to the highest personages only were made of leather. It is believed to have been in the time of Louis XIV. that coaches were first suspended by leathern straps for ease of motion.

The first *C.* ever seen in England is said to have been one made in 1555 by Walter Rippon for the Earl of Rutland; and in 1564, the same builder made a showy vehicle for Queen Elizabeth. Later in the reign the royal carriages had sliding panels, so that the queen could show herself to her loving subjects whenever she desired. During the closing years of Elizabeth's reign, and early in the 17th c., the use of pleasure carriages extended rapidly in England. The coaches had first to struggle against the opposition of the boatmen on the rivers, and then against that of the sedan owners and bearers; but they gradually came into very general use. By successive steps the coaches of those days gave way to the elegant vehicles of the present.

The following are some of the chief kinds of pleasure-carriages. The *Dennet* is a two-wheeled vehicle for one horse, with a jointed hood or head covered with leather, and a driving-box. The *Stanhope* bears some resemblance

COACH-DOG.

to the dennet. The *Tilbury* is in like manner a two-wheeled vehicle for one horse; but it has pliable leathern braces between the springs and the body of the vehicle, together with suspension brackets. The *Cabriolet* belongs to the same class as the *tilbury*. The name *Cab* is an abbreviation of *cabriolet*, but it has come to be applied to a four-wheeled vehicle. The *Currie* is a two-wheeled vehicle for two horses; there are no shafts; but a pole, fixed to a frame which supports the body, passes between the horses, and is suspended from a metal bar resting on their backs. The *Phaeton* is a four-wheeled vehicle which may be drawn either by one or two horses; its front body is somewhat like that of a dennet or stanhope, and behind this is an open seat, supported on a kind of large box. The *Coach* is a closed four-wheeled vehicle for two or more horses, with at least two seats inside, and a skilful arrangement of springs for ease of motion. The *Chariot*, or chaise of modern days, usually differs from the C. in having only one seat. The *Landau* is a C. made with movable top, to be opened occasionally. The *Barouche* is permanently open, with only a leathern hood or head over the rear part. The *Britzka* is a kind of small barouche. The *Brougham* is a miniature coach usually for two persons, but in which four may be accommodated; and the *Clarence*, a pair-horse carriage with movable glazed panels and hood, and for two or more persons.

The manufacture of carriages, whether pleasure vehicles or omnibuses, ranks in the highest class of mechanical labor. There is a necessity for the best materials and the best workmanship, since, owing to the severe strains and jerks to which the vehicles are subject, cheap construction is in the end unprofitable. Many kinds of wood are employed in the construction. The body of the C. is made by one set of workmen, the under-framing by another, the former partaking more than the latter of the nature of cabinet work. The steel-spring making is delicate work, owing to the necessity for combining strength with lightness and elasticity; and the various pieces of iron work require careful adjustment, especially the axles. The covering of the upper part of the body of a C. with leather is one of the most difficult parts of the manufacture; one single hide is employed, the leather being worked round the corners by repeated currying while wet; and all must be rendered smooth, without even a puncture. The best coaches receive as many as 20 to 30 coats of oil paint; and the polishing processes are numerous and carefully conducted. The carving, gilding, herald-painting, lace and fringe work, metal ornamentation, etc.—all are among the best examples of their respective handicrafts.

English carriages have long been considered the best in the world for their combined strength and beauty. In recent years the United States stands in the first rank for carriage-making, except in such special types as the 'tally-ho,' built on English models.

COACH-DOG, or DALMATIAN DOG: variety of dog apparently allied to the hounds, though said to be deficient both

COACHING—COAD.

in keenness of scent and in sagacity. It is often kept in stables, becomes attached to the horses, and runs after carriages. Its general light color and numerous dark brown or black spots are constant characteristics; as are also its short hair, tail destitute of brush, and inoffensive disposition. Its origin is uncertain; the name Dalmatian is probably altogether misleading; and it is supposed that it may have been brought from India, where a very similar kind of dog exists.

COACHING: the art of driving a fancy coach or drag drawn by four or more blooded horses; also the act of being so driven; a society diversion patterned after the old English mail and passenger stage coach whose usefulness ceased with the multiplication of railroads. C. was revived by a number of wealthy gentlemen-drivers in New York, 1875, as a species of high-toned sport, and their example was quickly followed elsewhere. Tally-ho and C. clubs preserve many of the ancient forms and customs—the coats of special colors for drivers and guards, the straight horn, etc.—make annual parades in their respective cities and at fashionable summer resorts; form a conspicuous feature of all great turf events; and frequently make long journeys, such as from New York to Philadelphia and return, taking relays of fresh horses stationed by their owners at convenient distances along the route, and the owner of the drag taking turns with his guests in driving. When on parade or at the races the roofs are graced with the presence of ladies. The quickest C. pace recorded is 9 m. in 35 minutes.

COACH WHIP SNAKE: *Psammophis flagelliformis*, a species of the genus *Masticophis*. It is found in S. C., Ga., and Fla., attains a length of five ft. or more, has a narrow head and body, and is black, brown, and slate-colored. It is named from the tail, which tapers like a whip-cord, with imbricated scales. It moves swiftly, lives on young birds and small animals, is not poisonous, but will twine round its foe when attacked.

COACT, v. *cō-ăkt'* [L. *coactus*, driven or brought together—from *con*, together; *actus*, driven or impelled]: to act in concert; to act in union. **COACT'ING**, imp. **COACT'ED**, pp. driven or compelled. **COACTION**, n. *kō-ăk'shŭn*, compulsion; force restraining or impelling. **COACTIVE**, a. *kō-ăk'tiv*, acting in concert; compelling.

COAD, *kōd*, **JOHN**: English carpenter who joined the Duke of Monmouth in the rebellion of 1685, was severely wounded at Philips Norton, tried by Lord Jeffreys for treason, and exiled to Jamaica. He wrote *A Memorandum of the wonderful Providences of God to a poor unworthy Creature (from the 12th of June, 1685, unto the 24th of November, 1690), in and after the Revolution between the Duke of Monmouth and King James*, which Lord Macaulay in his *History of England* pronounced the best account of the sufferings of those rebels who were sentenced to transportation.

COADJUTOR—COAITA.

COADJUTOR, n. *kō'ăd-jō'tēr* [L. *con*, together; *adjutor*, a helper, an assistant—from *ad*, to; *jutus*, assisted]: one who helps another; an assistant; technically, in ecclesiastical law, one appointed to assist a bishop, whom age or infirmity has disabled in whole or in part: see EXECUTOR. **Co'ADJU'TOR-SHIP**, n. joint assistance. **Co'ADJU'TRIX**, n. fem. *jō-triks*, a female assistant.

COADUNATE, a. *kō-ăd'ũ-năt* [L. *con*, together; *adũnārē*, to unite—from *ad*, to; *ũnũs*, one]: in *bot.*, united at the base; cohering.

COAGULATE, v. *kō-ăg'ũ-lăt* [F. *coaguler*, to curdle—from L. *coagulārē*, to curdle; *coagulātus*, curdled]: to curdle; to congeal; to change a fluid into a fixed mass; to thicken or turn into clots: **ADJ.** thickened; curdled. **Coag'ULATING**, *imp.* **Coag'ULATED**, *pp.* **Coag'ULATOR**, n. that which causes coagulation. **Coag'ULANT**, n. that which. **Coag'ULA'TION**, n. *-lă'shŭn* [F.—L.], the act of changing from a fluid to a fixed state. **Coag'ULABLE**, a. *-lă-bl*, that may be thickened. **Coag'ULABIL'ITY**, n. *bil'ĩ-tĩ*, the capacity of being thickened or coagulated. **Coag'ULATIVE**, a. *-lă-tiv*, having power to coagulate. **Coagulum**, n. *kō-ăg'ũ-lũm* [L.], clot of blood; the curd of milk; a thickened or fixed mass of liquid.

COAGULA'TION: the amorphous (q.v.) solidification of a liquid, or part of a liquid, as when the caseine of milk is solidified by rennet in making cheese (q.v.), or the white of an egg by boiling. The process varies in various substances. Albumen, or the white of an egg, coagulates at a temperature of 160°. Milk is coagulated or curdled by the action of rennet or by acids. The fibrin in the blood, chyle, and lymph of animals is coagulated by the separation of these fluids from the living body: see BLOOD.

COAHUILA, *ko-ă-wē'lă*: state in the Mexican confederation; separated from Texas by the Rio Bravo del Norte lat. 24°–30° n., and long. 100°–103° e.; 50,890 sq. m. The cap. is Saltillo (pop. 8,105); there are besides the towns of Coahuila and Santa Rosa. It has some silver mines, but it is valuable chiefly for its pasturage. Pop. of state (1882) 130,026; (1900) 280,899.

CÖAIRTA: see ATELES.

COAL.

COAL, n. *kōl* [Icel. *kol*; Ger. *kohle*, original meaning, fire; Sw. *kylla*, to kindle; Gael. *gual*, coal, v. to burn. Skr. *jval*, to burn]: wood completely charred, extinguished or still ignited; charcoal; mineralized vegetable matter that can burn; a hard, black mineral used as fuel: V. to burn wood to charcoal; to take in coal for the supply of a steam or sailing vessel. **COAL'ING**, imp.: N. taking in of coals, as into a steam-ship. **COALED**, pp. *kōld*. **COAL'Y**, a. -*ī*, like coal; containing coal. **COAL-BLACK**, black like coal. **COAL-FIELD**, a natural deposit or bed of coal in the earth. **COAL-FISH**, a sea fish having the upper part of the head and back black. **COALSEY**, n. *kōl'zē*, fry of the coal-fish. **COAL-HEAVER**, -*hēv'ēr*, one who carries coals, as into a house, cellar, or ship; a coal-porter. **COAL-MINE** or **COAL-PIT**, the place out of which coal is dug. **COAL-NOTE**, a kind of promissory note used in the coal-trade in the port of London. **COAL-SCUTTLE**, -*skūt'l*, a utensil of various shapes, chiefly made of metal for carrying and containing coal for immediate domestic use. **COAL-WHIPPER**, one of a gang who unloads a ship's cargo when it consists of coal. **COLLIER**, n. *kōl'yēr*, one who digs out the coal in a coal-mine; a ship employed in carrying coals. **COL'LIERY**, n. -*ī*, a place where coal is dug, and the machinery employed in raising it to the surface. **COAL-MEASURES**, n. plu. -*mēzh' ūrs*, in *geol.*, the strata or geological formation in which the deposits of coal are found: see **CARBONIFEROUS SYSTEM**. **TO BLOW THE COAL**, to kindle strife. **TO CARRY COAL**, to submit to mean drudgery, or the performance of the most menial offices; to be humble. **TO CARRY COALS TO NEWCASTLE**, to do something very unnecessary; to lose one's labor. **TO HAUL OVER THE COALS**, to call to account; to censure—in allusion to a former method of torture to extract a confession or money from a victim.

COAL: solid mineralized vegetable matter that can be used for fuel. In the sense of a piece of glowing fuel thence a piece of fuel, whether dead or alive, the word is common to all the languages of the Gothic stock, and seems allied to the Lat. *caleo*, to be hot; as also allied to *glow*, and *kiln*. The different sorts of fuel are distinguished by prefixes, as *char-coal*, *pit-coal*, *sea-coal*; but owing to the eminent importance of mineral or pit-coal, the word C. alone has come to be used in this special signification [Ger. *stein kohlen*, Fr. *charbon de terre*].

C. is one of the most important of all minerals; it consists chiefly of carbon, and is universally regarded as of vegetable origin. For its geological relations, see **CARBONIFEROUS SYSTEM**. It occurs generally in strata or beds; it is always of black or blackish-brown color; some of the varieties have considerable vitreous or resinous lustre, and some are destitute of lustre; some have a shell-like fracture, and some have a sort of slaty structure, and are readily broken into cubical or rhomboidal fragments. The precise characters of C. as a mineral species are not easily defined, and in Europe and America important cases have occupied courts of law, in which this difficulty was strongly felt, as in the great Scottish law.

suit concerning the *Torbanehill Mineral* (q.v.). C., indeed, is rather a commercial than a scientific term, but in a general way we may define it as a fossil fuel of a black color and stony consistency, which, when heated in close vessels, is converted into coke with the escape of volatile liquids and gases. The variety known in Britain as blind coal, in the United States as anthracite (or simply coal), no doubt gives off scarcely any volatile matter, but this is because it has undergone a natural distillation through metamorphism or other cause. We may therefore divide C. into two primary divisions, namely, (1) *Anthracite*, which does not, and (2) *Bituminous* or *soft C.*, which does flame when kindled. Anthracite (q.v.) contains sometimes as much as 94, and, excluding the ash, 98 per cent. of carbon, and as this element decreases in amount it graduates into a bituminous coal. The term anthracite is, however, still applied to some coals which do not contain more than 80 per cent of carbon. Various synonyms, such as stone C., glance C., culm, and Welsh C., also are used to designate this substance, which in Britain is used chiefly for smelting purposes and for raising steam, but in the United States is used also very largely for domestic fuel. It is difficult to kindle, but gives out a high heat in burning, and holds fire for a long time. Bituminous C. includes an almost endless number of varieties, one of the best marked being *cannel* or *parrot C.* Cannel C. is so called from burning with a bright flame like a candle, and the name parrot C. is given to it in Scotland from the crackling or chattering noise which some kinds of it make when burned. That of different localities varies much in appearance, but it is commonly dull and earthy, or with only a slight lustre; some kinds are, however, bright and shining. In texture it is nearly always compact, and certain beds of it admit of being polished in slabs of considerable size, which approach black marble in appearance. Of this material vases, inkstands, boxes, etc., are made. Cannel C., from the large percentage of ash which it contains, is not suitable for house fires, and is for the most part consumed in making gas, of which it yields from 8,000 to 15,000 cubic ft. per ton. When distilled at a low red heat it yields paraffine oil. The other varieties of bituminous C. are so numerous that, as a British admiralty report states, there are as many as 70 denominations of it imported into London alone. Still, among these there are three leading kinds—1. *Caking C.*, which cakes or fuses into one mass in the fire. It breaks into small uneven fragments, and is found largely at Newcastle and some other localities. 2. *Splint* or *hard C.*, occurring plentifully in Scotland, which is hard, and has a kind of slaty fracture. It is not very easily kindled, but when lighted makes a clear, lasting fire. 3. *Cherry* or *soft C.*, which breaks easily into small irregular cubes, has a beautiful, shining lustre, is readily kindled, and gives out a cheerful flame and heat. It is common in Staffordshire. Brown C. or lignite (q.v.), though inferior to true C., is nevertheless an important fuel in some countries in default of a better kind.

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The use of C. does not seem to have been known to the ancients; nor is it well known at what time it began to be used for fuel. Some say that it was used by the ancient Britons; and at all events it was to some extent an article of household consumption during the Anglo-Saxon period as early as A.D. 852. There is reason for thinking that England was the first European country in which C. was used to considerable extent. About the end of the 13th c. it began to be in use in London, but at first only in the arts and manufactures; and the innovation was complained of as injurious to health. In 1316, the parliament petitioned the king, Edward II., to prohibit the use of C., and a proclamation was accordingly issued against it; but owing to the high price of wood, its use soon became general in London. It was for a long time known there as *Sea-C.*, because imported by sea.

Several theories as to the mode of the origin of C. have been put forth from time to time. The one now generally received is that the rank and luxuriant vegetation which prevailed during the carboniferous age grew and decayed upon land raised but slightly above the sea; that by slow subsidence this thick layer of vegetable matter sank below the water, and became gradually covered with sand, mud, and other mineral sediment; that then, by some slight upheaval of the sea-bottom or other process, a land surface was once more formed, and covered with a dense mass of plants which in course of time decayed, sank, and became overlaid with silt and sand as before. At length thick masses of stratified matter would accumulate, producing great pressure, and this, acting with chemical changes, would gradually mineralize the vegetable layers into coal. Some experiments made by Dr. Lindley a few years ago, showed that of a large number of plants kept immersed in water for two years, the ferns, lycopodiums, and pines were those which had the greatest powers of resisting decay, and C. appears to be mainly composed of the substance of the ancient gigantic representatives of these three orders of plants. The interesting fact has also been lately proved by Huxley, Morris, Carruthers, and others, that in many instances the bituminous matter in C. is formed almost wholly of the spore cases and pores of plants allied to our club-mosses and ferns.

As will be seen from the following table, wood, peat, lignite or brown C., and true C. indicate by their composition the changes which vegetable matter undergoes by decay and pressure; and a table in which a considerable number of examples of each substance could be given would show how gradually these substances pass into each other:

	Wood.	Peat.	Lignite.	Coal.
Carbon	50.0	60.0	65.7	82.6
Hydrogen	6.2	6.5	5.3	5.6
Oxygen.....	43.8	33.5	29.0	11.8
	<hr/> 100.0	<hr/> 100.0	<hr/> 100.0	<hr/> 100.0

In each of these bodies there is usually a small percentage of nitrogen, which in the above table has not been separated. In passing from wood or peat to C., the proportion

of oxygen and hydrogen decreases, these substances being given off in the form of marsh gas and carbonic acid in the process of decay.

COAL SUPPLY.—Since the prosperity of great national industries, as well as much of domestic comfort, depends on the continuance of an abundant and cheap supply of fuel, much anxiety has arisen in Great Britain of late years regarding the future supply and price of coal. Of the probable duration of the coal supply, very various estimates have been made, ranging from 100 to 1,000 years. Since the fall of 1872, a great rise has taken place there in the price of coal. This is due partly to the unusually high rate of miner's wages, and partly to the fact that some of the richest and most easily worked English coal-seams are becoming exhausted.

All the coal now existing was formed untold ages ago, when the conditions of temperature and moisture on the earth's surface were different from those now prevailing. Coal is not a growth annually renewable, but an accumulation which is gradually being spent. This generation is living, not on the interest of its coal but on the capital. This is a truth which scientific men have recognized for some time past; but statesmen and manufacturers, mine-owners and merchants, have given singularly little attention to the subject, under the supposition that the existing stock will last for so great a period that there need be no anxiety on the matter. John Williams in 1789, Sir John Sinclair in the *Statistical Account of Scotland*, Robert Bold in 1812, and Dr. Buckland in 1830, were almost the only writers, until recently, who cautioned England that her supply of coal will not last forever. Two volumes on the *Coal Question*, however, by Mr. Hull and Mr. Jevons, respectively, effectually roused public attention to the matter.

At the Newcastle meeting of the British Assoc., 1864, Sir W. G. Armstrong, as chairman, forcibly urged the subject on the attention of scientific and practical men. He said: 'Contemplating the rate at which we are expending those seams of coal which yield the best qualities of fuel, and can be worked at the least expense, we shall find much cause for anxiety. . . . We have already drawn from our choicest mines a far larger quantity of coal than has been raised in all other parts of the world put together; and the time is not remote when we shall have to encounter the disadvantages of increased cost of working, and diminished value of produce.' He urged especially that we ought not to squander our coal as at present. We waste nearly all the smoke, heated air, and heated gases from our furnaces; we waste sadly in our open fire-places; and there is a vast quantity of small-coal recklessly burned at the pit's mouth. Various statistics as to supply and consumption had furnished Sir W. G. Armstrong with his data. So widely have estimates differed, as to available quantity still in store, that between 1792 and recent times, the conjectures, for Northumberland and Durham alone, varied from 200 years to 1,700 years, as the period during which the whole nation could be supplied

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from this one coal-field; but more earnest attempts have been made in late years to arrive at approximate figures. In 1857, M. De Carral, a Prussian mining-engineer, estimated the coal-mining of that year in all countries at 125 million tons, with an average value of 7s. per ton at the pit's mouth; he credited Prussia with enough unexhausted coal to supply all the world for 900 years. In 1861, Mr. Robert Hunt ascertained, by reliable mineral statistics, that Great Britain raised 86 million tons in the year; that the quantity was increasing by nearly three million tons every year; and that the British mines were being worked at thrice the rate which had been in force 20 years before. These facts drew the attention of public men. The produce of Great Britain in 1861 was from 3,052 collieries; and the different districts joined in the supply as follows: Durham and Northumberland, 19 million tons; Lancashire, 12; Yorkshire, 9; Staffordshire and Worcestershire, 7; South Wales, 7; Derbysbire and Nottinghamshire, 5; Scotland, 11; all other districts, 16—amounting to a total of 86 million tons. M. Burat, in his *Situation de l'Industrie Houillière en 1864*, estimated the coal-produce of the world at 141 million tons, of which he credited Great Britain with about four-sevenths. In the same year, Sir W. G. Armstrong, taking Mr. Hull and Mr. Hunt as his authorities, estimated the available stock of coal in the United kingdom at 80,000 million tons, rejecting all seams below 4,000 feet as too deep to work. and all less than two feet thick as too thin to work. Taking 1864 as a standard of consumption, it would last 930 years; but at the rate of increase of recent years, it would last only 212 years because this rate would be geometrical and not merely arithmetical in its progression.

In 1866, the question came into the arena of the British parliament. On Apr. 17, during a discussion in the house of commons on the malt-tax, Mr. J. Stuart Mill, dwelt on the fact that coal is one of the great sources of national wealth; and he accepted as trustworthy the calculation of Mr. Jevons—that in three or four generations scarcely any usable coal will be left at a less depth than 4,000 ft., a depth which will either be unworkable, or workable only at a greatly-increased cost. This speech made a great impression on the house; and the government, a few days afterward, undertook to ascertain what facts the officers of the geological survey possessed on the subject. On May 3, the chancellor of the exchequer, Mr. Gladstone, made his financial statement for the year, in which he accepted Mr. Mill's views, based as they were on the opinions of Sir Roderick Murchison, Sir John Herschel, Sir W. G. Armstrong, Dr. Percy, Mr. Hull, Mr. Jevons, and other authorities. He assented to the probability that by the year 1970, if matters go on at their present rate, no coal will be left. 'I disbelieve and disapprove,' he added, 'of all attempts to limit by law the consumption of coal. In vain would it be to think of stopping the consumption of coal in this country; in vain would it be to think of diminishing that consumption by the imposition of a tax; and it would be more vain still to think of prohibiting its exportation.' In other

words, the remedy, if any, can *not* be by legislation. The question was brought to a decisive point June 12, when Mr. Hussey Vivian moved an address to the crown, praying for the appointment of a royal commission to investigate the whole matter. In an elaborate speech, he stated his reasons for believing that the forebodings of Mr. Hull and Mr. Jevons are too gloomy—that advancing science will enable miners to contend against the temperature and pressure of deeper mines than have hitherto been thought practicable; that miners will be better able than ever to ventilate and drain the deep workings; that the area of coal workable even with the present means is larger than has been estimated; that the magnesian limestone and new red sandstone beds are likely to afford an opening for new stores of coal quite incalculable in amount; that the theory of an increase of consumption in a geometrical ratio is not tenable; and that probably consumption will be economized in future years by the adoption of new processes, new furnaces, new stove-grates, smoke-consuming apparatus, and the utilization of waste heat and gases. Although entertaining these favorable views, he nevertheless suggested official inquiry. The government assented; and a royal commission, comprising the Duke of Argyle, Sir Roderick Murchison, Sir W. G. Armstrong, Mr. Vivian, Mr. Prestwich, Dr. Percy, Mr. Jukes, Mr. Robert Hunt, and several other experienced men, was appointed 1866, July.

The coal commissioners gradually collected a large body of information concerning the quantity of coal raised annually in the United Kingdom; the probable future rate of increase, the quantity still remaining at available depths underground, and the best means of economizing coal in future. They obtained a great mass of evidence which was published 1871, with maps, plans, and diagrams. They reported that their deepest mines are about 2,000 ft., but that 4,000 ft. might possibly be worked with improved lifting and ventilating appliances. They estimated the coal of the United Kingdom, at all depths down to 4,000 ft., at 90,207 million tons—viz., 46,000 millions in England; 34,000 millions in Wales; 10,000 millions in Scotland, and a mere trifle in Ireland. The largest single coal-field they found to be that of S. Wales, 32,000 million tons. With deeper deposits, the total was 146,480 millions of tons. Later calculations are given by Dr. Edward Hull in his *Coal-fields of Great Britain* (4th ed. 1881). He has corrected the estimates of the commissioners down to 1880, and obtains the following results for the visible coal-fields: in England and Wales, 69,216 millions of tons; in Scotland, 9,643; in Ireland, 150; total, 79,009 millions of tons. The summary by Prof. Ramsay of the probable amount of coal under Permian and other formations, at a depth of less than 4,000 ft., with 40 per cent deducted for loss and other contingencies, is upward of 56,000 millions of tons, so that the total available coal in visible and concealed coal-measures amounts, according to this calculation, to 136,000 millions of tons, a supply which Dr. Hull thinks would be sufficient to last for more than a thousand years.

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The coal-harvest of Great Britain, 1872, was 123,000,000 tons; in 1873, it was 127,000,000 tons; and in 1880, it was 146,818,622 tons, or an increase of 12 millions of tons upon the previous year. The value was £62,395,000; the number of collieries, 3,880. In 1881, the coal raised was 154,000,000 tons, from 3,813 collieries.

AVAILABLE COAL IN THE CHIEF BRITISH COAL-FIELDS, AT DEPTHS NOT EXCEEDING 4,000 FT., AND IN SEAMS NOT LESS THAN 1 FT. THICK.

	TONS.
South Wales.....	32,456,208,913
Midland (Yorkshire, Derbyshire, and Nottinghamshire).....	18,172,071,433
Northumberland and Durham.....	10,036,660,236
Lancashire and Cheshire.....	5,546,000,000
Bristol.....	4,218,970,762
North Staffordshire.....	3,825,488,105
Lesser English coal-fields.....	5,952,740,019
Total of Scottish coal-fields.....	9,843,465,930
Total of Irish coal-fields.....	155,680,000
Grand total.....	90,207,285,398

The above table does not include probable deposits at greater depth but still workable, under the Permian, new red sandstone, and other superincumbent strata (see above).

On the continent of Europe, productive coal-fields occur in Belgium, France, various parts of n. Germany, Spain, and Russia. By far the largest in area are those of Russia, and they are known to contain many valuable beds of C., though, as yet, comparatively little has been worked. C. is found also in India, China (where the coal-fields are estimated to cover 400,000 sq. m.), Japan, and the Malayan Archipelago, in Australia and New Zealand, and in Africa.

Turning to the new world, there is evidence of promising coal-deposits in several S. American countries, but, owing to the great supply of wood in their forests, there is little temptation to work them. In Canada, Nova Scotia, New Brunswick, and Newfoundland there are small, though valuable, coal-fields; but in the United States enormous fields of fossil fuel are found. The entire area of these is about 200,000 sq. m., being 38 times greater than the area of the coal-fields of Great Britain. But though the coal-measures of the States are of vast extent, and contain many valuable coal-seams—a few of them 40 and even 50 ft. thick at certain places—there has been doubt whether the amount of workable C. is as great as has been stated. In proportion to the extent of the seams, the quantity of C. annually raised in the United States is small, compared with the product of Great Britain.

Coal in the United States.—The bituminous coal-areas in the United States are seven in number: 1, the Triassic area, in Virginia and North Carolina, containing 2,885 sq. m.; 2, the Appalachian, in nine Eastern States, containing 61,510 sq. m.; 3, the Michigan area, 7,000 sq. m.; 4, the Central, in three states Indiana, Kentucky, Illinois, 48,000 sq. m.; 5, Western area, seven states from Iowa to Texas, 98,700 sq. m.; 6, Rocky Mountain area, six states from North Dakota to New Mexico; 7, Pacific coast, three

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states, Washington, Oregon, California. The extent of the last two areas is not yet well determined. Excluding these last from the calculation, we have a total area of 235,253 sq. m. Of this, however, not more than 140,000 sq. m. contain workable coal-beds. The anthracite area aggregates 985 sq. m., of which Rhode Island and Massachusetts have 500 sq. m., Pennsylvania 470, and Colorado and New Mexico 15 sq. m. So little anthracite is mined in Rhode Island and Massachusetts that no reports of the production are given for recent years. The coal-areas are distributed very unequally over the United States. The greatest development of workable coal-strata is in the Alleghany Mountains and to the w. of them, extending continuously from Penn. and O. to Ala. The next most important one is that numbered 4, above. That numbered 5 is of much less importance and extent, and the Mich. coal-field has scarcely been opened.

Commercially speaking, the anthracite division may be said to consist of Penn. alone, although a small amount of anthracite coal is mined in Neb. and Colorado. The original coal-beds of New England have been metamorphosed into graphite and graphitic coal. This area is confined to e. R. I. and the counties of Bristol and Plymouth, Mass. The product mined from the beds, which may more properly be called graphite than coal, requires a considerable degree of heat for combustion, and can be used only with other combustible material or under an intense draught or blast. Its principal use is in the direct manufacture of steel; the entire annual output is but a few thousand tons. The anthracite coal-fields of Penn. are confined to Carbon, Columbia, Dauphin, Lackawanna, Luzerne, Northumberland, Schuylkill, Sullivan, and Susquehanna counties, in the n.e. part of the state. Of these, Luzerne co produced (1901) over one-third the entire product of the state, Lackawanna and Schuylkill counties together nearly five-ninths. There are 5 recognized principal divisions of the Penn. anthracite region: (1) The southern or Pottsville field, extending from the Lehigh river, at Mauch Chunk, s.e. to within a few miles of the Susquehanna river, directly w. of Harrisburg. The coal of this field is shipped to market through the Lehigh valley. Its production in 1886 was 3,427,435 long tons. (2) The western middle or Mahanoy and Shamokin field, extending from the easternmost headwaters of the Little Schuylkill river to the Susquehanna. Its production in 1886 was 8,122,639 long tons. These fields comprise the Schuylkill region which, 1901, yielded 16,019,591 long tons. (3) The eastern middle or upper Lehigh field, lying between the Lehigh river and Catawissa creek, and mostly situated in Luzerne county. Its production in 1901 was 7,211,974 long tons. (4) The northern or Wyoming and Lackawanna field lies in the Wyoming and Lackawanna valleys, and mostly in Luzerne and Lackawanna counties. Its production in 1886 was 18,247,875 long tons. (5) The Loyalsock and Mehoopany field is within the area drained by the headwaters of two creeks of that name, 20 or 25 m. n.w. of the w. end of the field last mentioned. In

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1886, its production was 61,767 long tons. The last two fields comprise the Wyoming region which, 1901, produced 30,337,036 long tons. The total output of anthracite and bituminous coal during that year in Pennsylvania was 133,730,011 long tons, or 51 per cent. of the total yield of the country.

The bituminous-coal areas of the United States may for convenience be grouped into seven divisions, the Triassic, the Appalachian, the Northern, the Central, the Western, the Rocky Mountain, and the Pacific Coast areas. The eastern Triassic area is composed chiefly of the Richmond basin in Va. and the Deep River and Dan River fields in N. C. No extensive mining operations are now carried on in this area. The Appalachian field is immediately w. of the e. border of the Appalachian range, and extends from N. Y. on the n. to Ala. on the s., its direction being n.e. and s.w.; length about 900 m., width from 30 to 180 m. There are in this region many varieties of bituminous coal, the best and most productive beds, on the whole, being those of the Pittsburgh district and of W. Virginia. The thickness of the coal-measures in different sections varies from 100 to over 3,000 ft. In 1901 this field or region produced 150,501,214 short tons of coal. The Northern bituminous area is all in central Michigan. The coal here found is not of superior quality, and is used mostly for local supply. The product in 1901 was 1,241,241 short tons. Of the Central area, three-fourths are in Ill., less than one-sixth in Ind., and about one-twelfth in w. Ky. In 1901, it produced 37,450,871 short tons. In the Western field the most extensive mining operations have been carried on in Iowa and Mo.; its area is seen from the figures above given to be greater than that of any other one coal-field in the United States. The coals are of great variety; the best which has so far been mined is that of the Indian Territory. The Rocky Mountain coal-beds have been found in the geological formations from the carboniferous up to and including the cretaceous, differing in this respect from those hitherto enumerated, which, with the exception of that in Va. and N. C., are all confined to the carboniferous. This coal-field has not yet been thoroughly explored, and no reliable estimates have been made of the areas underlaid by workable coal-beds, though their extent is doubtless very large. The same is, though in a less degree, true of the coal-fields of the Pac. coast; coal has been mined in Cal., Or., and W. T.

The total product of all kinds of coal in 1901, exclusive of that consumed at the mines, for the purposes of mining operations, was 293,298,516 short tons; the spot value, or price at which it was sold at the mines, was \$348,910,469. Of this amount 60,242,560 long tons or 67,471,667 short tons were Penn. anthracite, the spot value of which was \$112,504,020. All other coals, including bituminous, brown coal, lignite, and small amounts of anthracite produced in the Western field, aggregated a total production of 201,631,115 short tons, the spot value of which was \$236,406,449. The colliery consumption varies at the individual mines from nothing to 8 per cent. of the total product of the

mine; for the different states it varies from 3 to 6 per cent., being highest at the anthracite mines of Pennsylvania.

Coal Strike of 1902.—This strike was by the anthracite miners in Pennsylvania. It was ordered to begin on May 15, on demands of a 20 per cent. increase in wages, an eight-hour work day, a reduction in the size of the ton of mined coal from 2,750 to 2,240 pounds, and the recognition of the Miners' Union. Many political, financial, and religious interests attempted to work a compromise, but were unsuccessful. On July 30 a part of the State militia was called out in the districts where most lawlessness prevailed, and on Oct. 5 the entire State militia was called out. On Oct. 1, President Roosevelt invited President Mitchell of the United Mine Workers of America and the principal anthracite operators to confer with him. Mitchell agreed to submit the question to an arbitration tribunal to be appointed by President Roosevelt. This was declined by the operators. As a result of President Roosevelt's efforts Mitchell and the operators agreed on Oct. 13 to the appointment of a commission by him to settle the questions. The following were appointed commissioners: Brig.-Gen. John M. Wilson, U. S. A.; E. W. Parker; Judge George Gray; E. E. Clark; Thomas W. Watkins; and Bishop John J. Spalding, with Carroll D. Wright as recorder. Subsequently Mr. Wright was made a commissioner also, and Edward A. Moseley and Professor Neill assistant recorders. The commission met in Washington Oct. 24, and on 1903, March 18, submitted their report, awarding the miners 10 per cent. increase in wages and other concessions, but not the recognition of their Union. It is estimated that the strike cost about \$147,000,000.

COAL-BEDS: see CARBONIFEROUS SYSTEM.

COALESCE, *v.* *kō'ă-lēs'* [L. *coales'cērē*, to grow together—from *con*, *ales'cērē*, to grow up: It. *coalizzare*: F. *coaliser*]: to grow together; to unite; to adhere in masses; to assimilate or unite as one, as nations by intermarriages. COALES'ING, *imp.* COALESCED', *pp.* *-lēst'*. COALES'CENT, *a.* *-lēś'ēnt*, growing or uniting together. COALES'CENCE, *n.* *-ēns*, the act of growing together; union. COALITI'ON, *n.* *-līsh'ŭn* [mid. L. *cōalitiōnem*, an assembly]: a union (or league for united action) of persons, parties, or states for a common object; a confederacy or league; union of separate bodies or parts into one mass. COALITI'ONIST, *n.* *-īst*, one who. A COALITION GOVERNMENT, a government made up of members from opposing parties by mutual concession of principles.—Pitt the elder, when he took office in England, 1757, coalesced with the whig aristocracy represented by the Duke of Newcastle. The ministry always spoken of, however, as the Great Coalition was formed 1782, when Fox, leader of the reformers, took office with Lord North, the leader of the opposite party. When Lord Derby's ministry resigned, 1853, there was a short coalition between the whig party, under Lord John Russell, and the more moderate of the conservative party, under Lord Aberdeen.—*SYN.* of 'coalesce': to amalgamate; unite; cohere; join; add;—of 'coali-

COAL-FISH—COANZA.

tion': confederation; confederacy; combination; conspiracy; league; alliance; conjunction.

COAL'-FISH (*Merlangus carbonarius*): fish of the same family with the cod and haddock (*Gadidæ*), and of the same genus with the whiting. It is not unlike the whiting in form, and in its fins, which, however are not proportionally so large, but is of very different color, the upper parts being nearly black. It attains, also, a much larger size, being often two or three ft. in length. It is celebrated among fishermen for its voracity, and is commonly found in large shoals, which, when attracted by bait, will keep near a boat till great numbers are taken. It is rather a coarse fish, but is much used in the n. parts of the world, fresh and salted, or dried. It is found in the most arctic regions, even on the shores of Spitzbergen, and on the European and American sides of the Atlantic. It is very plentiful on the British coasts, and in Scotland is generally known as the *Sethe*. The fry are taken in great numbers by juvenile fishers stationed on rocks, and are called *podleys* on the e. and w. coasts of Scotland, *sillocks* and *cuddies* on some of the Scottish coasts, and *coalseys* in the n.e. of England. This fish is an important part of the food of the Orkney and Shetland islanders, and of the inhabitants of some of the Hebrides. Vast numbers of the fry are sometimes caught by means of blankets in the mouths of streams in the Hebrides. The liver of the C. abounds in oil, which is used for lamps.

COAL-TAR: see GAS-TAR.

COAMINGS, n. plu. *kōm'ingz*: among *seamen*, raised work round the hatches of a ship to prevent water from running down hatchways and scuttles into the hold.

COAN, *kō'an*, TITUS, D.D.: 1801, Feb. 1—1882, Dec. 1; b. Killingworth, Conn.: missionary. After teaching for some years, he graduated 1833 at Auburn Theol. Seminary, received Congregational ordination in Boston, and sailed, Aug. 16, for the Straits of Magellan, to explore with reference to a possible mission. Escaping with difficulty from the natives, he reached Conn. 1834, May, and Dec. 5 sailed with his bride and others for Honolulu, Sandwich Islands. Establishing himself at Hilo, he labored with great activity and success, organizing schools and churches, traveling on foot over 100 m. of coast, and receiving 13,000 converts. He gave special attention to volcanoes, observing Kilauea and Mokuaweoweo for 40 yrs., and wrote much about them. He visited the Marquesas missions 1860 and 1867, and the United States 1870, making 239 addresses in 11 months. Besides numerous contributions to the *Amer Jour. of Science*, the *Missionary Herald*, etc., he wrote *Adventures in Patagonia* (N.Y. 1880), and *Life in Hawaii* (1882). He died at Hilo.

COANZA, *kō-ân'za*: river of Lower Guinea, w. Africa which, after a course of about 500 or 600 m., enters the Atlantic s. of St. Paul de Loando; lat. about 9° 10' s. It is navigable for a considerable distance, but a bar at its mouth renders it inaccessible save to small vessels.

COARCTATE—COAST.

COARCTATE, a. *kō-ârk'tāt* [L. *con*, together; *arctus*, constrained, tight]: confined into a narrow compass; in *bot.*, closely pressed together. **COARCTATION**, n. *kō-ârk-tā'shŭn*, the state of being restricted to a narrow space; the state of being closely pressed together.

COARSE, a. *kōrs* [a supposed corrupted form of *course*, as in the phrase 'of course,' meaning, according to the regular order of events: perhaps connected with Eng. *gross*, Scot. *gorsk*, strong and rank, as grass]: not refined from impurities; not soft or fine in texture; rude; rough; gross; impure; indelicate. **COARSE'LY**, ad. -*lŭ*. **COARSE'NESS**, n. the state or quality of being coarse—**SYN.** of 'coarse': rude; rough; gross, blunt; uncouth; large; thick; unpolished; inelegant; indelicate; mean.

COAST, n. *kōst* [OF, *coste*, a rib, a coast—from L. *costa*, a rib, a side: It. *costa*: F. *côte*]: the limit or border of a country; the sea-shore or land near it: v. to sail near the land or in sight of it; to sail from port to port in the same country; in *OE.*, to draw near. **COAST'ING**, imp. **ADJ.** applied to the trade carried on in ships between different parts of the same country. **COAST'ED**, pp. **COAST'ER**, n. a vessel employed in home-trade only. **COAST-GUARD**, a body of men, connected with the navy, for watching the sea from the coast. **COAST-LINE**, ocean boundary of any portion of land; greatly increased where there is much indentation of the coast by bays and gulfs. The coast-line of Asia is abt. 30,000 m. in length; Africa, 15,000; Europe 20,000; N. America, 23,000; S. America 15,000. **SEA COAST**, margin of land next the sea. **THE COAST IS CLEAR**, the danger is over; no impediment exists; no enemies or opponents are in sight or at hand. **COAST'WISE**, ad. by or along the coast. **COASTING-TRADE**, commerce by sea from port to port of the same country. Formerly, no goods or passengers were allowed to be carried from one port of the United Kingdom to another, except in British vessels; but this restriction was repealed 1854, and the C. of Great Britain is now open to all the world. In other countries, the exclusive policy still prevails: see **NAVIGATION LAWS**.

COASTING TRADE IN THE UNITED STATES.—The coasting fleet is far the most flourishing branch of the merchant marine of the United States. If our lake and river tonnage be included, it is the largest coasting fleet in the world; indeed, it surpasses in point of tonnage the combined mercantile navies of any two nations, excluding Great Britain. The style, model, and rig of the vessels themselves are thoroughly American. The total number of vessels employed in the different coasting trades and fisheries of the Atlantic and Pacific coasts, including the western rivers and all inland navigation except that of the great lakes, 1896, June 30, was 22,908; total tonnage 4,703,880. Of these sailing vessels numbered 14,274, tonnage 1,928,260; steam vessels 6,595, tonnage 2,307,208; there were 682 canal-boats registered, tonnage 75,224; and 1,357 barges, tonnage 393,188.

COAST AND GEODETIC SURVEY.

If all vessels engaged in the fisheries and in the navigation of the great lakes and the western rivers be excluded, the total number of vessels in the coastwise trade, properly so called, was 20,030, tonnage 3,790,296. The laws of the United States, enacted before the purchase of Florida, created two great coasting districts with Florida between them. When Florida was acquired, it was added as a third district; and this peculiar arrangement has been maintained.

Vessels on the northern great lakes are not registered, and owing to the mixed character of the voyages performed it is not easy to separate vessels engaged in coastwise from those engaged in Canadian trade. It is estimated, however, that 95 per cent. of the tonnage of the United States on the great lakes is employed in domestic, and only 5 per cent. in the Canadian, trade. The lake vessels in 1895 numbered 3,342, tonnage 1,241,459.

COAST AND GEODETIC SURVEY, UNITED STATES: survey carried out by a division of the U. S. treasury department. The first authority for such a survey was in an act of congress 1807. In recent times its scope has been widened by act of congress, and it has been authorized to extend its triangulation into the interior of the country through such states as have a geological survey. Thenceforward it has been the coast and geodetic survey. While its operations have of necessity developed in a somewhat irregular and unsystematic fashion, it has accomplished the greatest work of scientific mensuration ever undertaken in this country.

The original purpose of the coast-survey service was to provide maps and charts which would show every part of the coasts, the islands, shoals, roads, and places of anchorage, within 20 leagues of the shores. For this purpose it was provided that there might be employed in this service such public vessels and crews in actual service, and as many officers and men of the army and navy as might be necessary. The navy officers, it was arranged, should be employed upon the hydrographic portions of the work, the army officers upon the topographical portion. Besides the configuration of the coasts, it is provided that the chart prepared by the coast survey shall show by lines the probable limits of the Gulf Stream, the probable limit to which the soundings off the coasts will extend, the triangulation, the topography, and the soundings of the coasts. Tidal and magnetic observations and observations of currents are also included in the work. The sec. of the treasury is empowered to fix the prices at which, and the regulations under which, the maps and charts prepared by the survey shall be disposed of.

The reason for assigning this service to the treasury department was that its purposes bore principally upon the commercial interests of the country, which are in general confided to that branch of the executive. At the request of the treasury dept., the sec. of the navy assigns suitable naval officers to be chiefs of the hydrographical parties. The head of the office is called the superintendent of the coast and geodetic survey. He has a salary of \$6,000 per

COAST DEFENSE.

annum. Under him is a force of about 160 assistants, clerks, draughtsmen, etc. It is his duty personally to inspect the operations of all parties and persons employed upon the survey; to provide the necessary methods and formulæ for the calculations required by the service; to assign the duties of the parties and persons employed; to give all necessary instructions respecting the scientific portions of the work; to make contracts and dispose of property which can no longer be utilized; to supervise the publication of the results of work; and to make annual reports to the sec. of the treasury. It is also his duty immediately to make public any discoveries made by the survey, which may be of use to the public, such as discoveries of reefs, rocks, and new channels. The appropriations for the service are about \$500,000 annually.

The work done by the office under these regulations is various and extensive. Thus in 1887-88 its operations afield and afloat went on in nearly all the states and some of the territories. The transcontinental geodetic work intended to unite the survey of the Atlantic coast with that of the Pacific is making progress simultaneously from both the e. and the w. ends, and is advancing toward a junction. Trigonometrical surveys have been carried on in nine states which have made provision for their own topographical and geological surveys. This work in the interior is gradually establishing an exact skeleton or frame-work, by means of which accurate base-lines are afforded for state surveys, by which the lines of the public-land surveys can be checked in position and direction, and by which the preparation of accurate state maps is rendered possible.

The other surveys carried on by the United States government are the geological and geographical survey, and the land-office surveys, all under the charge of the dept. of the interior: see GEODESY: HYDROGRAPHY: TRIANGULATION.

COAST DEFENSE: protection of coast towns against attack. Prior to 1886 the United States was very poorly protected against foreign invasion. In that year Pres. Cleveland, by direction of congress, appointed the Endicott fortification board, which made a careful investigation. The report of the committee showed that at that time the government had 2,020 sea-coast guns on hand available for use, besides sea-coast mortars. Many of the guns were of little value, and the batteries could not stop a single first-class war-vessel.

This committee recommended a plan which is now being carried out. The original estimate of cost was \$97,782,800, exclusive of \$28,595,000 for floating batteries. It was estimated that the work could be completed in 1896. But because of the slowness of appropriations only one-seventh of the work was completed at that time.

Early in 1898 Congress made an appropriation of \$50,000,000 for National defense. Out of this \$12,865,841 was devoted to coast defenses, and this amount with other appropriations raised the sum to \$30,988,233 for this purpose in 1898-99. The appro. for fortifications, 1902, was \$7,188,416. There are 131 cities on the seacoasts

COAST-GUARD—COATI.

and great lakes, with a pop. of 10,000,000 and wealth aggregating \$10,000,000,000, which require defenses.

COAST-GUARD: British organization, formerly intended merely to prevent smuggling, but now constituted as a defensive force also. The admiralty may, from time to time, issue orders for the augmentation of the C., not to exceed 10,000 men in all. The coasts of the United Kingdom are divided into 11 districts, each under a navy captain. The C. are taught naval gunnery, gunboat exercise, and the serving of land-batteries. The guard-ships are employed also as training-ships for the navy. The C. comprised (1888) 4,000 men.

COASTING-TRADE: see under **COAST**.

COAST RANGE: see **CALIFORNIA**.

COAST VOLUNTEERS (BRITISH): see **NAVAL RESERVE, ROYAL: VOLUNTEERS**.

COAT, n. *kōt* [F. *cotte*, a frock—from It. *cotta*, a coat or frock: O.H.G. *kott*; Gael. *cota*, an upper garment]: a man's garment worn above the waistcoat or vest; an upper garment; an external covering; a layer of any substance, as a coat of paint: V. to cover or spread over, as paint on a wall; to smear; to put on a coat. **COATING**, imp.: N. a covering; any substance spread over another. **COATED**, pp.: ADJ. in *bot.*, having concentric coats or layers. **COATEE**, n. *kō-tē'*, a half coat; a very short coat. **COAT OF ARMS**, the emblazonment of armorial bearings on an escutcheon; in the middle ages, taking the place of the *paludamentum* of the ancient Roman captains. It was a coat worn by princes and great barons over their armor, and descended to the knee. It was made of cloth of gold or silver, of fur, or of velvet, and bore armorial insignia. The 'coat of arms,' as understood by heraldry in the present day, is nothing more than a relic of the ancient armorial insignia, divested of the coat on which it used to be embroidered: see **SHIELD: HERALDRY**. **COAT OF MAIL**, a piece of armor in the form of a coat, made of metal scales or rings linked together: see **ARMOR**. **TO TURN ONE'S COAT**, to change one's party, church, or principles.

COATBRIDGE: rising and prosperous town of Scotland, in the parish of Old Monkland, about eight m. e. of Glasgow, on the Monkland canal and Caledonian railway. The town is straggling, has some good houses, and a number of small villages or suburbs on its outskirts. There are six churches besides the parish church, two academies, and several other schools, banks, etc. The town is in the centre of a mineral district, is surrounded by about 50 smelting-furnaces, and contains eight malleable iron works, one tin-work (the only one in Scotland), and several other works connected with the iron manufacture. C., owing to the great increase in the iron trade, has grown rapidly in size and prosperity within the last 30 years. Pop. (1841) 1,599; (1851) 8,564. (1861) 10,501; (1871) 15,802; (1901) 36,981.

COATI, *ko-ā'tī*, or *ko-āt'ī*, or *kō'a-tī*, or **COATI-MONDI**, *-mōn'dī* (*Nasua*): genus of quadrupeds of the family *Ursidae* (the Bear family); by some naturalists referred to *Viverridae*.

COATZACOALCO—COBALT.

(the Civet family), though their *pantigrade* character allies them rather to the former. They are most nearly allied to the racoons, and, like them, are exclusively American. They are remarkable chiefly for the elongation of the snout, which is a sort of flexible proboscis, and is turned about in search of food, and employed in rooting up the earth to obtain worms and insects. They are often domesticated in S. America, and are very affectionate, active, troublesome, and amusing.

COATZACOALCO, *ko-ât-sâ-ko-âl'ko*: river of Mexico, province of Vera Cruz. It rises in the Sierra Madre, flows n.e. and n., and enters the Bay of C., in the Gulf of Mexico, lat. 18° 8' n., long. 94° 17' w. It was partially explored by a U. S. commission 1850, and more fully by Capt. Shufeldt 1870-71, to ascertain the feasibility of a canal across the isthmus of Tehuantepec, which is here 143½ m. wide. The C. receives several affluents, and is 1,500 ft. wide at its mouth, at which is a bar having two channels, 350 and 100 ft. wide, and 11 to 13 ft. deep; these have not changed since 1520, when Cortes had soundings taken. The river is navigable by the largest vessels for some 35 miles.

COAX, v. *kōks* [OE. *cokes*, a simpleton, a gull; F. *cocasse*, that says or does laughable or ridiculous things; Gael. *caoch*, blind]: to make a 'cokes' or fool of one; to wheedle or gull one into doing something; to persuade by fondling or flattery. COAX'ING, imp.: ADJ. persuading by fondling or flattery: N. the art or process of coaxing. COAXED, pp. *kōkst*. COAX'ER, n. one who. COAX'INGLY, ad. *-lī*.—SYN. of 'coax': to wheedle; flatter; soothe; fawn; cajole.

COB, n. *kōb* [W. *cobio*, to thump; *cob*, a knock, a tuft; Gael. *cob*, abundance; *copan*, the pan of the head, boss of a shield]: a bunch, tuft, or cluster of a thing; the top or head; anything in round lumps; a dumpy horse; a strong pony; a foreign coin; a building composition of clay and gravel, or clay and chopped straw, laid on in lumps: V. to punish; to beat. COB'ING, imp. COBBED, pp. *kōbd*. COB'BY, a. *-bī*, stout; brisk. COB-STONES, large stones. COB-COALS, large coals. COB-NUT, fine cultivated variety of the hazel-nut (q.v.), like the filbert but larger, and round. In the W. Indies the name cob-nut is given to the fruit of *Omphalea triandra*, tree of the nat. ord. *Euphorbiaceæ*. It is called also hog-nut. The tree has a white juice, which turns black in drying, and in Guiana is used instead of ink. The fruit is a three-celled capsule, each cell containing one seed or nut, which, if the embryo is retained, has very cathartic properties, but, after its extraction, is wholesome and pleasant. COBBLES, n. plu. *kōb'blz*, in prov. Eng., small round coals or stones.

COBALT, n. *kō'bawlt* [Ger. *kobalt*—from *kobold*, the goblin or demon of Ger. mines]: an elementary substance in the form of a brittle metal of a reddish-gray or grayish-white color; of no use as a metal in the arts and manufactures, but which forms compounds of commercial importance. C. (symbol Co) is found naturally in combination with arsenic (As) as *Speiss C.* (CoAs); in combination with arsenic and

COBAN—COBB.

sulphur, as *C. Glance*, the arsenide and sulphide of C. (CoS_2 , CoAs), in ores of Nickel (q.v.); and in the metallic state, it is found in meteoric stones or aërolites (q.v). The metal has been obtained in laboratory experiments, and presents a gray color with a reddish tinge, is highly magnetic, and is as hard and infusible as iron. It is brittle, and forms no alloys of commercial use. The protoxide of C. (CoO) is employed in painting on porcelain, for producing a rich blue color. *Zaffre* is the impure oxide obtained by partially mixing C. ore with two or three times its weight of fine sand. *Smalt* is the term applied to a deep blue glass, which owes its color to the presence of oxide of C., and which, when reduced to very fine powder, is used occasionally by laundresses to correct the yellow color of newly-washed linen, and by paper makers as a blue pigment for staining writing paper. Smalt is used also in the production of the blue colors in porcelain, pottery glass, encaustic tiles, fresco-painting, etc., and is the principal ingredient in *Old Sevres Blue*, *Thenard's Blue*, *Turquoise Blue*, and *Variegated Blue*: see BLUE. A compound containing the oxides of C. and zinc is of a beautiful green color, and is known as *Rinman's Green*. The chloride of C., dissolved in much water, may be employed as a sympathetic ink. In dilute solutions, it is of a faint pink color, which is not observable when it is used for writing upon paper; but when heated before the fire it loses water and becomes blue, and the writing is then capable of being read. On allowing the paper thereafter to lie in a damp place, or exposing it to the vapor of steam from a kettle, water is again absorbed, and the writing returns to its invisible state. The addition of a little perchloride of iron to the ink makes the writing appear green; a solution of zinc imparts a red tint; and a salt of copper, a yellow shade. COBAL'TIC, a. *tik*, pertaining to cobalt. CO'BALTINE, n. *-tĭn*, arsenical ore of cobalt; cobalt-glance.

COBA'N: town of Central America, Guatemala, dept. of Vera Paz, in a fertile valley on the Rio Dolce, 55 m. n. of the town of Guatemala. The inhabitants are nearly all Indians, are generally industrious and some of them wealthy, and possess plantations of sugar-cane, bananas, pimentos, and various kinds of fruit-trees. Pop. (1898) 24,475.

COBB, DAVID, M.D.: 1748, Sep. 14—1839, Apr. 17; b. Attleborough, Mass. He graduated at Harvard 1766; practiced medicine at Taunton, Mass., and sat in the provincial congress 1775. He served as lieut.col. in N. J. and R. I. 1777-78, was one of Washington's aids, and became col. and brevet brig.gen. After the war he was maj.gen. of militia and judge of the Bristol co. (Mass.) court, was in congress 1793-95, and removed 1796 to Oldsborough, in the then province of Maine. Thence he was sent to the Mass. senate, was its pres. 1802, a councilor 1808, lieut.gov. 1809, and later chief justice of the Hancock co. (Me.) court. He returned 1817 to Taunton, and died there.

COBB, HOWELL: 1815, Sep. 7—1868, Oct. 9; b. Cherry Hill, Jefferson co., Ga.: statesman and secessionist. He

COBBETT.

graduated, 1834, at Franklin College, Athens, Ga., was admitted to the bar 1836, was solicitor-gen. of the w. circuit of Ga. 1837-40, and rapidly attained prominence. In congress as a democrat 1843-51, he professed strong attachment to the Union, but warmly advocated states-rights and the extension of slavery. He was gov. of Ga. 1851-53, again in congress 1855, and sec. of the treasury under Pres. Buchanan 1857-60, Dec. 10, when he resigned to follow the fortunes of his state. He was pres. of the Confederate congress at Montgomery, Ala., 1861, Feb., but did not harmonize with Jefferson Davis. On the demand of the Ga. members he was made brig. and maj.gen., but rendered little military service. He opposed the reconstruction measures, and died suddenly while visiting New York. A memorial vol. was edited by S. Boykin (Phila. 1869).

COBBETT, *kōb'ēt*, WILLIAM: English political writer: 1762, Mar.—1835, June 18; b. Farnham, Surrey, where his father was a small farmer. From infancy he was trained in industry and self-dependence. Taking a dislike to rural occupations he went to London, where he was employed a few months as a copying-clerk—an employment so distasteful that he enlisted into the 54th Foot, and with it went out to Nova Scotia. In this regiment he remained about eight years, securing, by uniform good conduct, activity, and intelligence the high promotion of sergeant-major. During his soldier-years he indulged in none of the dissipations common to barrack-life, but devoted his leisure to self-education. On his return to England, about the end of 1791, he obtained his discharge, married, and went to America in the following year. He settled in Philadelphia, where he began his career as a political writer. Under the signature of 'Peter Porcupine,' he was at this early stage as keen a tory as in later life he was a radical, and he lashed French republicanism and American democracy with a scorn as coarse and personal sometimes as it was always bitter. In America he was twice prosecuted for libel. He left America, 1800, June, and returned to England. In 1802, Jan., appeared the first number of his famous *Weekly Political Register*, which he continued without intermission 33 years until his death. At first tory, the *Register* gradually changed its politics, until at last it became the most fierce and determined opponent of the government, then presided over by Pitt, and the most uncompromising champion of radicalism. In 1810, having previously been twice tried and found guilty of libel on certain members of the government, he was sentenced to imprisonment for two years in Newgate, and to pay a fine of £1,000, for having in the *Register* made some severe remarks upon the flogging of five militiamen. In 1817, in consequence of pecuniary embarrassments, and the dread of being sent to Newgate again, under the six acts for the suppression of freedom of discussion, C. went once more to the United States, where he remained more than two years, his articles for the *Register* being transmitted with unfailing regularity across the Atlantic. In 1829-30, C. delivered political lectures in several principal towns of England and Scotland, and everywhere met most enthusi.

COBBLE—COBDEN.

astle reception as the boldest and most powerful advocate of the people's rights. In 1832, he was returned to the first reformed parliament as one of the members for Oldham. His speeches in parliament, however, did not add to his reputation. Among C.'s best known works are his *English Grammar*, *Rural Rides*, *Cottage Economy*, *Advice to Young Men and Women*, and *Parliamentary History*. C. was not of the first order of intellect; he was shut out altogether from the higher and more refined departments of human thought; but in dealing with matters of common sense merely, he had a native vigor far surpassing that of any writer of his day. notwithstanding his crotchets, he rendered lasting service to the cause of the people. See Smith's *Life of C.* (1878.)

COBBLE, v. *kōb'bl* [Seot. *hobble*, to cobble shoes: prov. Eng. *cobble*, to hobble, to walk clumsily: prov. Sw. *klabba*, to daub, to work unskilfully: OF. *cobler*, to join together]: to daub or work clumsily; to mend by putting on a patch; to repair coarsely. COBBLING, imp. *kōb'bling*. COBBLED, pp. *kōb'bl'd*, badly made or mended. COBBLER, n. *-blēr*, one who; a mender of boots and shoes; a coarse, clumsy workman.

COBBLE, n. *kōb'bl* [from COB, which see: Dut. *kabbelen*, to beat, as water against a bank or on the shore]: a round water-worn stone; a boulder.

COBDEN, *kōb'den*, RICHARD: 1804, June 3—1865, Apr. 2; b. Dunford, near Midhurst, Sussex: eminent English politician, designated 'the Apostle of Free Trade' His father, owner of some little land, which he cultivated himself, died while Richard was young, leaving his family in comparatively poor circumstances. Richard was received into a wholesale warehouse, belonging to his uncle, where he soon showed great aptitude for business. After some time he became a partner in a Manchester house, his presence here being speedily made manifest by the superior quality and tastefulness of the printed calicoes of the firm. In 1834-35, C. travelled in Turkey, Greece, and Egypt, and visited the United States, the result of his travels appearing in two pamphlets, entitled, respectively, *England, Ireland, and America*, and *Russia*; the latter intended as an antidote against the 'Russophobia' then prevalent. In these pamphlets, he also ridiculed the workings of diplomacy, and asserted England's mission to be the avoidance of war and the extension of commerce. In 1837, he contested unsuccessfully, on free-trade principles, the borough of Stockport; and in 1838 he carried in the Manchester chamber of commerce a motion to petition parliament for the repeal of all duties on corn. This was followed by similar action all over the country; and in the following year, petitions bearing some two millions of signatures for the repeal of the corn-laws were carried to London by 200 delegates. The motion of Mr. Villiers for repeal being rejected by a large majority of the house of commons, the friends of free trade determined to form the Anti-corn-law League (q.v.), of which C. became the most active and prominent member. To his lectures all over the country, and his speeches

COBDEN CLUB.

in parliament (to which he was returned, 1841, by the constituency which had rejected him 1837)—all characterized by great information, clearness, and acute and convincing reasoning—was in great part due, as Sir Robert Peel acknowledged, the abolition of the corn-laws at so early a period as 1846. Having accomplished this great work, C. again visited the continent, and during his absence he was elected to parliament both for Stockport and for the West Riding of Yorkshire. He chose the latter constituency, which he continued to represent till 1857, when, on an appeal to the country by Lord Palmerston to support him in his Chinese policy, of which C. was a strenuous opponent, C. was rejected. Shortly after the repeal of the corn-laws the public testified its gratitude for his services rendered in this matter by subscribing for him a magnificent testimonial of between £60,000 and £70,000. C. now gave up business, and devoted himself exclusively to politics. He continued to labor assiduously for the extension of free-trade principles, for parliamentary and financial reform, for repeal of the taxes on knowledge, and was particularly earnest in enunciating national and international peace views; and to this feeling, with regard to war, he owed his rejection at the general election of 1857. In 1859, having in the interval, on account of ill health, retired from politics altogether, he was, during his absence in America, elected for Rochdale. Lord Palmerston, who was at this time called upon to form a new ministry, with a just appreciation of the great services which C. had rendered to his country, offered him a seat in the cabinet, which C., as the uncompromising opponent of the noble lord's foreign policy, felt bound to decline. After his election for Rochdale, the state of his health did not permit him to take any part in parliamentary proceedings, but as her majesty's plenipotentiary, he (1859-60) arranged and concluded a treaty of commerce with France. C. spoke out strongly in favor of the North during the American war of secession. See his *Life* by John Morley (1880).

COBDEN CLUB: English organization named in honor of Richard Cobden, founded, 1866, to advance in all parts of the world the principles with which Cobden's name is associated, and especially those of free-trade. Among its founders were Earl Russel, Mr. Gladstone, John Bright, John Stewart Mill, Prof. Thorold Rogers, Prof. Goldwin Smith, and other distinguished men, especially of the liberal party. The work of the club consists principally in the publication and circulation of books and pamphlets, written by members of the club or in accordance with its views. These writings have been very extensively distributed in all countries. Noteworthy among them, besides the publications in favor of free-trade, have been a volume of essays on systems of land tenure in various countries, and another on systems of local government and taxation. The club also gives prizes for essays on some subject in political economy or for proficiency in that study at the universities of Oxford, Cambridge, Manchester, Calcutta, Bombay, Madras, Sydney, and Melbourne, etc., and at Harvard and Yale

COBIJA--CÖBRA-DI-CAPELLO.

universities, and Williams College. The membership is large. The club has an annual club dinner, at which important and interesting speeches are often made. The extent of its operations in the United States is not known, though the advocates of a protective tariff ascribe to the club a large political influence.

COBIJA, *kō-bě'chā*: town of Bolivia, claims notice chiefly as the only seaport of the republic. It is in lat. 22° 34' s., long. 70° 21' w., and is cap. of the dept. La Mar. Its trade is inconsiderable; for, besides the disadvantage of an open roadstead to seaward, there extends inland the almost impracticable desert of Atacama. Hence most of the maritime commerce of the state (see BOLIVIA) passes, and that in the face of transit-duties, through the Peruvian harbors to the northward. Pop. less than 3,000.

COBI'TIS: see LOACH.

COBLE, or COBBLE, n. *kōb'l* [Scot.: W. *ceubal*, a ferry-boat]: low, flat-bottomed boat with a square stern, used mostly by salmon-fishers.

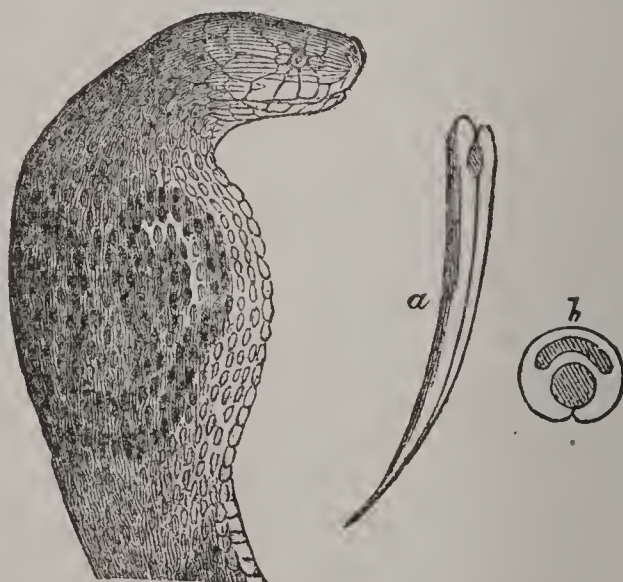
COBLENZ, *kō'blēnts*: city of Rhenish Prussia, beautifully situated at the junction of the Rhine and the Moselle; the former is here crossed by a bridge of boats, and the latter by a fine stone bridge. Being a bulwark of Germany against France, C. is defended by extensive fortifications, forming a fortified camp for 100,000 men. For defence purposes, C. is connected with the almost impregnable castle of Ehrenbreitstein (q.v.), on the opposite side of the Rhine. Several detached forts also guard the city at various points. In the old town of C. many of the streets are irregular, narrow, and dirty; but in the new town they are generally well built, moderately wide, and cleanly. Among its principal buildings are the church of St. Castor, founded early in the 9th c.; the town-hall; the old castle of the electors of Treves, repaired 1845; and the old Jesuit college, now a *gymnasium*. The favorable position of C. secures it an active commerce in wine, corn, mineral waters, etc. It manufactures champagne, cigars, japan-ware, and furniture. Many of the inhabitants are employed in vine culture. Pop. (1880), with Ehrenbreitstein and a garrison of 4,600, 36,240. C. was known to the Romans as *Confluentes*. Till 1796, it belonged to the Elector of Treves. In 1798 it was made the cap. of the new French dept. Rhine-Moselle and in 1815 was given to Prussia. Civilian pop. (1885) 31,669; (1891) 32,671.

COBOURG, *kō'būrg*: town, cap. of Northumberland (also of Durham) co., Ontario, Canada; 63 m. e. by n. of Toronto by the Grand Trunk railway. The C. Peterborough and Marmora railway has its s. terminus here, and brings much iron ore from the interior. C. is a port of entry on Lake Ontario, with a good harbor, and is a stopping place for the lake steamers; it has some manufactures, and a considerable export trade. Victoria College is here; the legal and medical depts. of Victoria Univ. are at Montreal and Toronto. Pop. (1901) 4,239.

COBRA-DI-CAPELLO, n. *kō'bră-dī-kă-pěl'lō* [Port., ser-

COBRA-DI-CAPELLO.

pent of the hood], (*Naja tripudians*). (sometimes the me C.-di-C. extends to the whole genus *Naja*): very venomous serpents of the sub-order *Colubrina*, remarkable for the faculty of dilating the back and sides of the neck, which they do when excited. The dilatation depends on the length of the ribs from the head to the tenth vertebra; when at rest, these ribs are directed backward, but spread out the integuments of the neck when drawn forward and arranged horizontally. It is usually three or four ft. long, of a pale, rusty-brown color above, and bluish or yellowish-white below, and is characterized by a singular mark on the back of the neck, closely resembling the figure of an old-fashioned pair of spectacles, from which the animal sometimes receives the name of the *Spectacle snake*. The C.-di-C. preys on lizzards and other small animals. It is usually sluggish, and is easily killed, even by means of a small stick or a whip. Its venom is extremely powerful, its bite causing death in two hours or less. Yet it is little disposed to use its fangs, except for the purpose of providing itself with food. The C.-di.-C. is often found in the vicinity of human dwellings in the E. Indies, and even in the houses themselves, attracted, apparently, by the young of the domestic poultry, and by the moisture of the wells and drainage. When one is found in or near the house, its mate is seldom far off. The Shinghalese, when obliged to leave their houses in the dark, carry a small stick with a loose ring, the noise of which, as they strike it on the ground, warns the snakes to leave the path. The poison of the C.-di.-C. is secreted in a large gland in the head of the serpent, which, when the animal compresses its mouth upon any object, flows through a cavity of the



Head and Neck of Cobra, showing the Hood:

a, fang of cobra; *b*, transverse section.

tooth into the wound. The poison, though most deadly when introduced into the system through a wound, possesses the curious property of being perfectly harmless if taken internally. Olive oil, applied externally, and ar-

COBURG—COCA.

monia taken internally, cauterizing, and ligatures, immediately applied, may save the life; but the poison is so deadly that instances of recovery of bitten persons are very rare. See Buckland's *Curiosities of Natural History*, and Fayrer's *Thanatophidia of India* (London: Churchhill). The other species of *Naja* are found in the warm parts of Asia, Africa, and Australia.

COBURG, *kō'bûrg*: town of central Germany, duchy of Saxe Coburg-Gotha, picturesquely situated on the left bank of the Itz a tributary of the Regen; lat. 50° 15' n., and long. 10° 58' e. In the market place are some striking, old buildings, but the general appearance of the houses is one of cleanliness and comfort. C. is one of the chief ducal residences, and the palace, a Gothic edifice, erected 1549, is one of the principal buildings in the town. The old castle of the dukes of Coburg, now partly used as a house of correction and prison, occupies a commanding height, more than 500 ft. above the town. The rooms, and the bed which Luther occupied when in concealment here 1530, are still exhibited to the visitor, as well as the pulpit from which he preached in the chapel of the castle. During the thirty years' war, the castle was ineffectually besieged by Wallenstein. C. is the seat of all the high courts of the duchy, and has manufactures of woolen, linen, cotton, marquetry, baskets, porcelain, furniture, and carriages, and exports beer. Pop. (1900) 20,460.

COBURG FAMILY, *kō'bûrg*, Ger. *kō'bôrch*: in Germany, dating from the 5th c.; noted for intermarriages with royal houses, especially during the present century. A sister of Duke Ernest I. became Duchess of Kent and mother of Queen Victoria; the duke's brother Leopold became king of the Belgians, and married in succession daughters of George IV. of England and of Louis Philippe; one of his nephews, Ferdinand, married the queen of Portugal, and was regent of that kingdom 1853; another, August, married a daughter of Louis Philippe; one of his sons, Duke Ernest II., declined the crown of Greece 1863, and another, Prince Albert, was the husband of his cousin, Queen Victoria of England.

COBURG PENINSULA: most northerly part of Australia, w. of the Gulf of Carpentaria. It runs out in a n.w. direction toward Melville Island, from which it is divided by Dundas Strait. On its n.e. side is the bay known as Port Essington, at the head of which, about lat. 11° 22' s., long. 132° 10' e., was established, 1839, the settlement of Victoria, abandoned, on account of its insalubrity, six years thereafter.

COBWEB, n. *kōb'wēb* [W. *cob*, a tuft, a spider; *copyn*, a spider: Flem. *kop*, a spider: Fris. *kop*, a bubble]: the network spread by a spider to catch its prey; any snare: ADJ. slender and feeble. COB'WEBBED, a. *wēbd*, in *bot.*, covered with loose hairs.

COCA, n. *kō'kă* [Sp. *coca*—from an Aymara Indian word, *khoka*, signifying 'the plant'], (*Erythroxylon Coca*): shrub of the nat. ord. *Erythroxylaceæ*, of which the leaves are much

COCAGNE—COCCEIUS.

used by the inhabitants of Peru and Bolivia as a narcotic and stimulant. The dried leaves (also called Coca) are chewed with a little finely powdered unslaked lime, or with the alkaline ashes of the quinoa (q.v.), or certain other plants. An infusion also is occasionally used. The properties and effects of C. resemble those of opium, though it is less narcotic, while it has the property of dilating the pupil of the eye, which opium has not. It also lessens the desire for ordinary food, and for some time at least, enables the person who uses it to endure greater and more protracted exertion than he otherwise could, and with less food. It is especially remarkable for its property of preventing the difficulty of respiration, so common in the ascent of long and steep slopes at great elevations. But when used habitually and in excess, it weakens the digestion, produces biliary and other disorders, and finally induces a miserable ruin both of body and mind. It has been in use from a very remote period among the Indians of S. America, and was extensively cultivated before the Spanish conquest. The shrub is 6 ft. high, and its leaves are picked and quickly dried in the sun, so as to preserve their green color. The annual yield of C. (also called Cuca) in Peru, Bolivia, Ecuador, and Colombia, is about 30,000,000 lbs. COCAINE, n. *kō-kā'in*, an alkaloid forming a crystalline bitter principle found in the leaves of the coca-plant, and which can be dissolved out of them by alcohol. It was in 1884 discovered by Dr. Koller, of Vienna, to produce, without evil effects, complete local anæsthesia of any part of the mucous membrane to which it is applied. It has no injurious effect on the epidermis. Thus during an operation the eye of the patient is rendered insensible to pain, while, unlike a patient under the influence of chloroform or any general anæsthetic, he himself remains conscious and amenable to the surgeon's orders. This anæsthetic, valuable in various branches of surgery, is now found to be the most dangerously seductive of narcotics: its use tends swiftly to a habit utterly destructive of mind and body. COCOA, n. *kō'kō'*, of the shops (see COCOA) is the bean of the *Thēōbrōmā cācāō*. COCOA-NUT, the very large nut or fruit of the *Cocos* palm: see COCOA.

COCAGNE, or COCAIGNE, n. *kō-kān'* [F. *cocagne*—from OF. *quaigne*, a fabled land of milk and honey, where the houses were made of cakes]: an imaginary land of idleness, plenty, and pleasure; a name applied to London and its suburbs: see COCKNEY.

COCCEIUS, *kok-tsū'yūs*, or COCH, *kok*, JOHANNES: 1603, Aug. 9—1669; b. Bremen: theologian. After preparatory studies in his native place, he went to Hamburg 1625, where he studied Hebrew. Thence he went to Franeker 1629. Returning to Bremen 1630, C. was appointed prof. of Hebrew at the Athenæum of his native place; called to Franeker for the same office 1636, and in 1643 appointed prof. of theology also. In 1650 he became prof. of theology at Leyden, where he died. C.'s chief work is the *Lexicon et Commentarius Sermonis Hebraici et Chaldaici*

COCCEJI—COCCO.

Veteris Testamenti (Leyden, 1669), the first approximately complete dictionary of the Hebrew language. The irrelevant and inaccurate matter which it originally contained, has been weeded out in the course of time by more skilful editors. Though C. had great learning, he held very peculiar hermeneutical principles, which enabled him to discover the whole New Testament in the Old. The result, of course was that he virtually transferred the language of the Old Testament to the New. The representation abundantly employed in the former of a covenant between God and man, usurped the place of the New Testament doctrine of the Fatherhood and Sonship; and his theology is a modern renewal of the old attempt to Judaize Christianity, which Paul denounced and condemned. C. carried 'the covenant theology,' which has its use in setting forth instructive analogies, it is called, to an absurd logical extreme. The most complete exposition of his views is in his *Summa Doctrinæ de Fœdere et Testamento Dei* (1648). C.'s principal antagonists were Voetius and Desmarets.

COCCEJI, *kōk-tsū'yē*, HEINRICH, Freiherr von: 1644, Mar. 25—1719, Aug. 17; b. Bremen. He studied at Leyden and in England; and was prof. of law successively at Heidelberg, Utrecht, and Frankfort-on-the-Oder. He was ennobled 1713. As an erudite jurist, C. was the oracle of many courts, and his work on German civil law (*Juris publici prudentia*, 1695) was almost universally used as an academical text-book for this branch of jurisprudence.

COCCEJI, SAMUEL: 1679–1755, Oct. 22; b. Heidelberg; youngest son of Heinrich von C.: renowned in the same department as his father. He, in 1703, became prof. at Frankfort-on-the-Oder, and afterward filled several honorable state-offices. At last he was appointed great chancellor, in which function he died. His reform of the Prussian administration of justice and his *Codex Fridericianus* (Berlin, 1747–50), were national benefits.

COCCIFEROUS, a. *kōk-sīf'ér-ūs* [Gr. *kokkos*, a berry; L. *fero*, I bear]: trees or plants that produce berries are so called.

COCCINEL'LA: see LADY-BIRD.

COCCO, *kōk'kō*, or COCOA ROOT, *kō'kō*, or ED'DOES: plants of the genus *Colocasia*, and of the nearly allied genus *Caladium*, of the nat. ord. *Araceæ*; generally cultivated in tropical and sub-tropical countries for their roots, or flat underground corms, which abound in starch, and are used as food, being deprived by roasting or boiling of the characteristic acidity of the order, which, indeed, some of them have in only a small degree. They are sometimes included under the name *Yam*, but are totally different from the true yams. The names cocco, cocoa root, and eddoes, perhaps more strictly belong to *Colocasia antiquorum*, a stemless plant with ovate leaves, and flowers inclosed in a cylindrical erect spathe. The taste of its roots is like that of potatoes. *Colocasia esculenta* is a similar plant, native of tropical America, and is much cultivated. *Colocasia macrorhiza* is the taro (q.v.) of the South



Coca (Erythroxylon Coca): a, Flower; b, Fruit.



Cocculus Indicus.—a, Branch with leaves; b, Panicle of female inflorescence; c, A female flower; d, The same with sepals removed; e, Male flower; f, Fruit.

COCCOLITE—COCCULUS INDICUS.

Sea Islands. In the Himalaya, *C. Himalensis* forms the principal food of many of the inhabitants. The root in its recent state is stimulant, diaphoretic, and expectorant.

COCCOLITE, n. *kōk'kō-lit*, or **COCCOLITH**, n. *kōk'kō-lith* [Gr. *kokkos*, a berry; *lithos*, a stone]: in *geol.*, a variety of augite (q.v.) occurring in the iron-mines of Norway and Sweden in granular or berry-like concretions. Coccolith was also the name given by Huxley to minute oval or rounded bodies, found either free or attached to the surface of coccospheres, in submarine localities: see **BATHYBIUS**.

COCCOLOBA: see **SEASIDE GRAPE**.

COCCOMILIA, or **COCUMIGLIA** (*Prunus coccomilia*): species of plum, native of Calabria, and of which the bark—particularly of the root—is much used in that country for cure of intermittent fevers. Its valuable qualities have been strongly attested by Neapolitan physicians, and it is employed both in private practice and in military hospitals, but it has not come into use in other countries. The C has obovate leaves, short double flower-stalks, and austere tawny-yellow fruit.

COCCOSPHERES, n. plu. *kōk'kō-sfērz* [Gr. *kokkos*, a berry; *sphaira*, a sphere]: spherical masses of sarcode, inclosed in a delicate calcareous envelope, varying in diameter from $\frac{1}{1360}$ to $\frac{1}{760}$ inch and bearing coccoliths upon their external surface: both coccospheres and coccoliths have been regarded by some as remains of lowly forms of life; but this view has not been established: see **BATHYBIUS**.



Coccoosteus.

COCCOSTEUS. *kōk-kōs'tē-ūs*: genus of fossil fishes, peculiar to the Devonian measures. It was nearly related to *Cephalaspis* (q.v.), but differed in having, in addition to the bony helmet of that genus, a cuirass covering both the dorsal and ventral aspects of the body as far down as the origin of the dorsal fin, from which to the tail—comprising more than one-half the entire length of the animal—all seems to have been exposed without the protection even of a scale. In a well-preserved specimen in the British Museum, the remains of the endo-skeleton can be detected. Seven species have been described from the bituminous schists of the

Old Red Sandstone of the n. of Scotland.

COCCOTHRAUS'TÉS: see **HAWFINCH**.

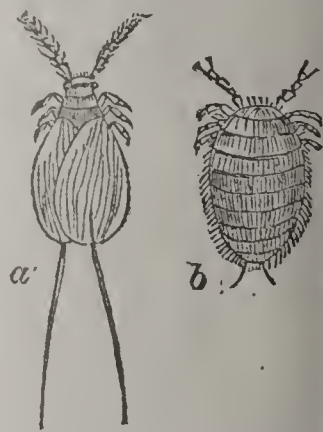
COCCULUS INDICUS, n. *kōk'kū-lūs in'dī-kūs* [L., Indian berry]: the fruit of a large tree, possessing narcotic and poisonous qualities; the fruit of the *Anāmīr'ta cōc'cūlūs*, ord. *Mēñspermācēæ*. **COC'ULUS PALMA'TUS**, *pāl-mā'tūs*, the plant from which the columba root is obtained; the root of the *Jatōrhī'zā pālmātā*, ord. *Mēñspermācēæ*. **COC'cus**, or **COC'cum**, n. [L., a berry used for dyeing]: in *bot.*,

COCCULUS INDICUS—COCCUS.

applied to the close cells of plurilocular fruits which separate from each other when ripe. *COCCID'IUM*, n. -sīd'-i-um, in *bot.*, a rounded conceptacle in algæ without spores, or containing a tuft of spores. *COCCOS'TEUS*, n. -kōs'tē-ūs [Gr. *ostēon*, a bone]: in *geol.*, a fish of the Old Red Sandstone, so termed from the berry-like tubercles studding its plates.

COCCULUS INDICUS, kōk'kū-lūs ĩn'dī-kūs: name given commonly, and in the pharmacopœias, to a very poisonous seed, brought from the East Indies, which is used for various medicinal purposes and illegally in the preparation of malt liquors. It has acrid and intoxicating qualities. It is used in India for stupefying fish, that they may be taken by the hand. An ointment made with it is a very efficacious remedy for ring-worm. It contains a most poisonous principle, called *Picrotoxine*, while the pericarp contains another called *Menispermine*, equally poisonous. It is the seed of the *Anamirta Cocculus*, a beautiful climbing plant, of the nat. ord. *Menispermaceæ*. It imparts to beer a bitter taste, and at the same time a fullness and apparent richness, but renders it very deleterious in its effects. The genus *Anamirta* is closely allied to the genus *Cocculus* (see *CALUMBA*), in which it was formerly included. The fruit of several allied species possesses properties analogous to those of the *A. Cocculus*.

CO'CCUS: genus of insects of the order *Hemiptera*, sub-order *Homoptera*, type of a family, *Coccidæ*, allied to the *Aphis* (q.v.) family, although in many respects very distinct. The *Coccidæ* are sometimes called *Scale insects*, and by the French *gallinsectes* (Latinized by some entomologists into *Gallinsecta*), but they are not to be confounded with the insects called gall-flies (*Cynipidæ* or *Gallicolæ*), which produce galls or nut-galls. The *Coccidæ* are very numerous, and are attached to particular plants, on the juices of which they feed, often producing much mischief by the flow and loss of sap which their punctures occasion, and giving great trouble to gardeners, who find it very difficult to free their plants, particularly in hot-houses,



Cochineal Insect (*Coccus cacti*):
a, male; b, female.

from the *scale*, the *mealy bug*, the *vine-gall*, etc. Various washes consisting of soap, sulphur, tobacco, etc., are employed for this purpose; but moist heat, or as much exposure to steam as the plant can bear, has been found in many cases the most efficacious remedy. The destructive coffee-bug belongs to this family. The male *Coccidæ* are winged insects, having only two wings, which shut horizontally upon the body; the abdomen is terminated by two threads. The females are wingless. It is not well known how the males subsist, as they have no apparent organs for sucking juices or eating any sort of food. The females

COCCYX—COCHIN.

have a beak, which they insert into plants in order to suck their juices. This interesting family of insects contains not only many troublesome species, but some which are of great value, particularly for the beautiful dyes which they yield. These dyes are obtained from the bodies of the female insects. Among them are cochineal (q.v.) and kermes (q.v.). A species of C. (*C. Polonicus*), which lives on the roots of the knawel (*Scleranthus perennis*), yields the SCARLET GRAINS OF POLAND, a considerable article of commerce before cochineal was introduced into Europe; and a species which feeds on the roots of the burnet (*Poterium Sanguisorba*) was in like manner used by the Moors for dyeing silk and wool of a rose color. Other species produce lac (q.v.) and wax: see WAX INSECT.

COCCYX, n. *kōk'siks* [Gr. *kokkux*, the cuckoo, imitation of its cry, a crest; *kokkūgos*, of the cuckoo: L. *coccyx*, the cuckoo; *coccy'gis*, of the cuckoo]: the terminal portion of the spinal column in man, commonly consisting of four rudimentary vertebræ, so called from its resemblance to a cuckoo's beak or bill. COCCYGEAL, a. *kōk'si-jē'āl*, or *-sij'ē-āl*, connected with the coccyx. COCCYGEUS, a. *kōk'si-jē'ūs*, applied to a muscle consisting of a thin, flat, and triangular sheet of fleshy and tendinous fibres connected with the coccyx.

COCCY'ZUS: see CUCKOO.

COCHABAMBA: department of Bolivia of which the city of C. is the capital; lat. 17°–19° s., long. 65°–68° w.; 21,417 sq. m. Besides the precious metals, it yields cotton, sugar, dye-woods, and timber. Pop. (1900) 326,163.

COCHABAMBA, *kō-chá-bám'bá*: city of Bolivia, on the C. river (one of the head waters of the Amazon); 145 m. n.n.w. of Chuquisaca. It has a temperate and healthy climate, and is engaged in the manufacture of cotton fabrics and glass wares. Pop. (1900) 21,886.

COCHIN, *kō'chīn* or *kō-chēn'*: protected state of Hindustan under the presidency of Madras; lat. 9° 48'–10° 50' n., long. 76° 5'–76° 58' e.; 1,361 sq. m. With Malabar on its n.w. and n., and Travancore on its e. and s., it fronts the Arabian Sea on the s.w., and meets Coimbatore toward the n.e. on the water-shed of the Western Ghauts. Its hydrography is singular. The Western Ghauts, which have here an elevation of fully 4,000 ft., intercept the s.w. monsoon, and render the coast one of the most humid regions in the world during June, July, Aug., and Sep.; while even during the remaining eight months, anything like an unremitting drought is unknown. As the space between the mountains and the sea is almost on a level with the tide, the countless streams have each two contrasted sections—the plunging torrent that breaks into comparatively short pieces the magnificent trunks of teak with which it is freighted; and the sluggish brook which, however it may vary, according to the season, in breadth and depth, almost uniformly results in a brackish estuary. Further, these estuaries, almost continuously breasted by a narrow belt of higher ground, form between them a backwater or lagoon

COCHIN.

of 120 m. in length, and of every width between a few hundred yards and 10 m., which communicate at only three points with the ocean. The cocoa-nut is the most valuable product of the country; besides this tree, however, the forests produce red cedar, anjelly teak, benteak, and many other hard woods, but these are now becoming very scarce. The low country produces rice, pepper, cardamoms, ginger, betel-nut, yams, arrow-root, and sweet potatoes. The population is peculiar in its composition, especially as compared with that of the most easterly parts of the peninsula. The great mass of the population are Hindus, but there are also Mohammedans, and a large number of Christians and Jews. The Jews are classified into white and black; and the Christians, divided between the Syrian and Romish Churches, trace their origin partly to the Portuguese conquest, and partly to the missionary labors of St. Thomas the apostle. Both the places of worship and the seminaries of education, throw light on the relative numbers of the different parties. The latter, 95 in all, are English, 5; Malayalam, 69; Tamul, 9; Mahratta, 1; Sanskrit, 7; Hebrew, 4. The former are—Hindu, 2,734; Mohammedan, 31; Jewish, 8; Christian, 108. Pop. (1881) 601,114; (1901) 812,025.

COCHIN: formerly capital of the principality of C., but now a seaport of the dist. of Malabar, presidency of Madras; lat. $9^{\circ} 58'$ n., and long. $76^{\circ} 18'$ e.; on the s. side of the principal channel between the open ocean and the back-water mentioned under the title of the principality of C. As this lake, so to speak, is, even in its lowest state, always navigable for canoes, its value, as a means of communicating with the interior, can hardly be overrated in a country where roads and bridges are nearly out of the question. The harbor affords a depth of nearly 25 ft., but there is a bar in front, which according to the latest survey, has only between 17 and 18 ft. of water upon it. On this bar, during the s.w. monsoon, the surf breaks so violently that it is sometimes, though not often, impassable for vessels. Still C. is next to Bombay on this coast with respect to ship-building and maritime commerce. Here the Portuguese erected their first fort in India, 1503. They were supplanted by the Dutch, 1663—the epoch also of the transfer of Bombay to Charles II. In 1796, C. was captured by the British, and about ten years later, its fortifications and public buildings were destroyed, and its private dwellings very much damaged. Notwithstanding this check the place continued to flourish; many merchant vessels, ranging upward to 1,000 tons, have been built; and, besides ships of war for the local navy, three frigates have been launched for the imperial service. The population of the city is more heterogeneous than even that of the state of the same name, the additional elements being Dutch, Armenian, Arabian, and Persian. Its trade depends almost entirely on the produce of the cocoa-tree—viz., oil and cocoa fibre. Water is brought from a distance of 18 m. Half a mile south is a town of the same name, in the native state of Cochin. Pop. (1885) 13,775; (1891) 30,000.

COCHIN CHINA.

COCHIN CHINA, *kō'chīn chī'na*, or ANAM: Asiatic state in the e. of the Indo-Chinese peninsula, now practically a French dependency; 10°–23° n. lat., and 102°–109° e. long., including Tonquin and Cochin China proper. It is bounded n. by China, e. by the Gulf of Tonquin and the China Sea, s. by Lower or French Cochin China, and w. by Laos, Siam, and Cambodia; 200,000 sq. m. Pop. estimated 21,000,000.

Physical Features.—A mountain range of considerable height runs through the country, parallel with the coast. The n. province of Tonquin is an extensive plain, through which flows the river Song-ca. C. C. proper extends along the coast 11°–18° n. lat. The largest river of Anam, and indeed of the whole Indo-Chinese peninsula, is the Mekhong or Cambodia, which, rising in the mountains of China, flows through Laos and Cambodia, and, after a course of some 1,500 m., separates into several branches, and finally discharges into the China Sea. The Song-ca, or Great river, of Tonquin, has an estimated course of 400 m.

The Hué, in C. C. Proper, flows through a fertile valley, and presents some of the finest scenery in Asia.

As to *climate* in Tonquin, the changes of temperature and weather are very sudden. Much rain falls in C. C. during the whole summer, which produces a general inundation about the end of Oct. The months of Sep., Oct., and Nov. are the best suited to the European constitution.

Among the *agricultural productions*, rice, of which two crops are raised in the year, is chief. Potatoes, peas, beans, melons, and other vegetables, maize, tobacco, cotton, indigo, tea, and sugar also are grown. Considerable silk is produced. Valuable trees, such as the calumba, ki-nam or scented eagle-wood, ebony, rose-wood, iron-wood, sandal-wood, the varnish-tree, and many others grow on the mountains. The palm-tribe and the bamboc are common in the low lands. The *mineral* riches of the country are very much neglected; but gold, silver, iron, copper, and coal exist, and are most abundant in Tonquin. The *domestic* animals are the elephant, Indian cow, buffaloes, pigs, goats, dogs, and cats. Fowls known in England and America as the Cochin China breed, so lately a rage in this country, ducks, geese, and pigeons, abound in every village. The most dreaded of the *wild animals* of C. C. is the tiger. Elephants are very numerous in the forests of Tonquin; and leopards, wolves, bears, wild boars, the rhinoceros, as well as many kinds of apes and monkeys, infest the mountainous districts. Serpents and other reptiles are in great numbers. Of *birds*, eagles, peacocks, quails, partridges, paroquets, and wild ducks are among the most important. Fish of excellent quality swarm in the rivers and canals. Very many are taken on the sea-coast, and carried to every part of the country.

Inhabitants.—The Cochin Chinese, like the other peoples of the Indo-Chinese peninsula, are characterized by a Mongolian physiognomy and a monosyllabic language. They are rather low in stature, but well proportioned, hardy, and active. The women have a lighter skin, and are altogether

better-looking than the men. Their dress is the old national costume of the Chinese prior to the Tartar conquest. The Cochin Chinese are greatly addicted to smoking, and betelnut is the universal masticatory. The civilization of this people has been derived from China; hence their religion and government, manners and customs, nearly approximate to the creeds, administrative system, and habits of that country. The selection of a place of sepulture is with them a very grave consideration, and the good or bad fortune of a family is supposed to depend upon it. Rice, with a sauce called balachiam, made of macerated salt fish, is the principal food of the Cochin Chinese; but they are very unclean feeders, no flying or creeping thing, whether bat, insect, or reptile, coming amiss. The national drink is tea; but a liquor made from rice also is in use. The common dwellings, which are raised two or three ft. from the ground, are made of bamboo and thatch; but the better classes inhabit brick-houses roofed with tiles. Women in C. C. are allowed full liberty, and frequently engage in commerce and agriculture. They are kind to their children, and proud of a numerous offspring. Infanticide is unknown, but the poor sometimes sell the children that they cannot afford to keep. Marriages are regulated by law; and before they can be contracted the consent of the head of the family is required. Polygamy, or rather a system of concubinage, is allowed, but obtains chiefly among the rich. Divorce also is permitted. The laws against adultery are very severe, yet among single women little or no disgrace attends a breach of chastity. The law invests the creditor with the most arbitrary power over the property, wives, and family of his debtor.

Government and Administration.—These are after the Chinese model. The emperor is absolute, but he must govern according to the laws. He is assisted by a supreme council of high mandarins, seven of whom are his ministers. The government officials are divided into military and civil or literary mandarins. The former have the precedence; and from them the emperor selects his ambassadors, gov.-generals, and viceroys. The learned and official language of the country is Chinese. For *administrative purposes*, the country is divided into provinces, departments, districts, and villages. A military gov. or viceroy, and two high civil mandarins, reside at every provincial capital; and the minor divisions have each their regular number of officials, who are appointed by the supreme government. The laws are very arbitrary. The bastinado system is in full force; indeed, the bamboo may be regarded as a political and social institution. The mandarins, as a class, are described as very corrupt. The cap. of the whole empire is Hué, or Huah. The foreign *commerce* of C. C. is carried on chiefly with China, Bangkok, and Singapore.

History.—Previous to the Mongol invasion of China, Tonquin formed a part of that empire, but at that time it threw off its allegiance. The Anamitic sovereign still acknowledged the emperor of China as his superior, yet his vassalage became little more than nominal. The present

COCHIN CHINA, LOWER.

inhabitants of C. C. Proper are said to be descendants of political refugees from Tonquin. In 1774, a revolution in the former country deprived the reigning monarch, Ghialong, of his throne, but in 1790, assisted by some European adventurers, he not only re-established his power in C. C., but added Tonquin to his dominions. In 1874, France guaranteed the independence of C. as against China; in 1883, occupied Tonquin, and made it a French protectorate; and by a treaty with Anam, 1884, practically reduced the empire to the position of a French dependency. The strenuous diplomatic opposition of China was at first overborne, but ultimately issued in war between France and China. See ANAM: FRANCE: also Veuillot's *La Cochinchine* (1859), Bouillevaux's *L'Annam* (1875).

COCHIN CHINA, LOWER, or FRENCH: colonial possession of France, at the s.e. corner of the Indo-Chinese peninsula. This territory was acquired after a war provoked by the continuous persecution for many years of the Christians in his dominions by the king of Anam, and especially by the murder of several French and Spanish missionaries. After an invasion, the three provinces of Saigon, Bienhoa, and Mytho, together with the island of Pulo Condor, and a few others off the coast, were taken possession of by the French 1861. In 1867, a new treaty, formed after the repression of formidable hostile aggressions on the part of some of the natives, led to the annexation of other three provinces, thus completing the present colony of *Cochinchine française*. Area, 22,900 sq. m. (in four provinces, Saigon, Mytho, Vinh-long, Bassac); pop. (1891) 2,034,453.

Napoleon III., in urging on the vigorous war policy which led to this acquisition, had in view the tradition that France had earlier claims to be satisfied, and other wrongs to be redressed, than those which induced him and the Spanish government to resolve on putting an end to the oriental monarch's persecuting cruelty. In 1787, Ghialong, King of Anam, in want of assistance to secure his throne, entered into a treaty with Louis XIV., by which he engaged, in return for French aid, to cede the town and harbor of Touran (Kwang-han), with its territory and two adjacent islands. The little active assistance afforded by France was effective; Ghialong was established on the throne, and added Tonquin and Cambodia to his dominions. The promises made to France were not fulfilled, but her missionaries were protected. Of three kings, each excelled his predecessor in persecuting the Christians, whether Europeans or natives, and in murdering the missionaries. The blood of the victims never ceased to flow till the sanguinary struggles which led to the establishment of the colony of Lower C. C. frightened the bloodthirsty potentates into toleration.

Cambodia, a level country to the n.w. of French C. C., fertilized by the Mekhong, and formerly a sort of feudal dependency on Siam, was in 1864 declared independent under the protectorate of France. Extensive explorations in the interior of Cambodia have brought to light stupendous monuments of an extinct civilization, rivalling those of Assyria and Egypt, but lost for ages amid the dense forests. Remains of extensive cities and carved stone figures attest a

unique culture, and justify the belief that some 2,000 years ago the Cambodian empire was of enormous power and wealth. Most of the monuments betray Buddhist influences; and the centre of the empire lay without the present limit of Cambodia, where now wild tribes dwell on the borders of e. Siam and w. Anam. Apparently the subjects of the ancient empire were of the same stock as the present Cambodians, who, with European features and polysyllabic speech, are totally distinct from the surrounding Mongoloid populations, and seem to be of Caucasian stock. The national name of the Cambodians proper, as of the wild tribes adjoining, is *Khmer*. Latterly, the French have been making their influence more felt in the extreme n. of the peninsula, and in 1882 occupied the capital of Tonquin (Tong-king), the northernmost province of the Anamese empire.

Great exertions have been made by France to promote the prosperity of Cochin China, and to use its territorial influence in such a way as to acquire the good will of the natives. But that the colony pays its own expenses has not been made clear; and the French do acknowledge that their new subjects are neither industrious nor commercial. Although the resources of the country are imperfectly developed, rice is produced in considerable abundance; cotton, sugar, indigo, and tobacco also are cultivated. The dwarf mulberry grows freely; silkworms are reared with facility; hemp, the betel-nut, and the areca-nut are likewise grown.

COCHINEAL, n. *köch'î-nêl* [Sp. *cochinilla*, a wood-louse—from L. *coccinēus*, of a scarlet color—from *coccum*, a berry, from the appearance of the insects to berries]: a dyestuff employed in dyeing scarlet and crimson, and in the preparation of carmine (q.v.) and lake (q.v.). It consists simply of the bodies of the females of a species of *Coccus* (q.v.), called *C. cacti*, because it feeds upon plants of the *Cactus* family, particularly on one, therefore designated the C. plant, but known in Mexico as the NOPAL (*Opuntia cochinillifera*), figured in the article CACTEÆ. This plant is nearly allied to the prickly pear. It assumes a somewhat tree-like form. Its fruit, though eatable, is very inferior to that of the prickly pear. It is a native of Mexico and other warm parts of Central and S. America, and is assiduously cultivated, for the valuable insect which it supports. This cultivation was carried on by the Mexicans long before the country was known to Europeans. It is now carried on also in some parts of the W. Indies, and in the island of Teneriffe. The C. plant and insect have been introduced into Algeria; but no considerable success



Cochineal or Nopal Cactus
and Cochineal Insect.

COCHITUATE LAKE—COCK.

La. yet attended the attempts to introduce them into the E. Indies, though the E. India Company once offered a reward of £6,000 for their introduction.—Other species of *Opuntia* appear to be as suitable for the C. insects as *O. cochiniifera*, particularly *O. Hernandezii* used in Mexico, and *O. Tuna*, used chiefly in Peru.

The C. insect is a small creature, a pound of C. being calculated to contain 70,000 in a dried state. The male is of a deep red color, and has white wings. The female, which is wingless, is of a deep brown color, covered with a white powder; flat beneath, convex above. When a plantation of the C. plant has been formed—by cuttings which are ready to receive the insect in eighteen months—the cultivator (*nopalero*) produces branches laden with C. insects; and keeping the branches, of which their succulency admits, till the mother-insects have laid their eggs, he places their bodies, with the eggs which they cover, in little nests formed of some cottony substance upon the C. plants, and the young insects, when hatched, soon spread over them. The gathering of the C. is very tedious, and is accomplished by brushing the branches with the tail of a squirrel or other animal. The insects are killed by boiling water, by heating them in ovens, or by exposure to the heat of the sun. They must be speedily killed, to prevent them from laying their eggs, which diminishes their value. When killed and dried, they may be kept for any length of time without damage. The different appearances presented by C. as brought to market, are ascribed to the different modes of killing the insect. C. is one of the most important exports of Mexico.

COCHITUATE LAKE, *kō-chīt' ŭ-at*: source of the water-supply of Boston; in Middlesex co., abt 17 m. w.s.w. of Boston; area somewhat more than 1 m. square.

COCHLEA, n. *kōk'lē-ă* [L. *cochlĕă*, the shell of a snail] the spiral cavity of the internal ear: see EAR.

COCHLEAR, a. *kōk'lē-ēr* [L. *cochlĕār*, a spoon]: in *bot.*, a kind of æstivation in which a helmet-shaped part covers all the others in the bud. COCH'LEAR'IFORM, a. *-ăr'î-fawrm* [L. *forma*, a shape]: shaped like a spoon.

COCHLEA'RIA: see SCURVY-GRASS.

COCHLEARY, a. *kōk'lē-ēr-î* [L. *cochlĕă*, the shell of a snail, a screw: Gr. *kochlos*, a shell-fish with a spiral shell]. having the form of a screw; spiral. COCH'LEATE, a. *-ăt*, or COCH'LEA'TED. a. spiral; screw-like.

COCHLIODUS, n. *kōk'lĭ-ō-dŭs* [Gr. *kochliās*, a cockle *odous*, a tooth]: fossil fish-teeth found in the mountain limestone, having a cockle-shell-like aspect.

COCK, n. *kōk* [an imitation of the cry: OF. *coc*; F. *coq*—from mid. L. *coccus*, a cock: Bohem. *kokot*, a cock]: the male of birds, particularly of the domestic fowl—fem. *hen*, a vane in shape of a cock. COCK'EREL, n. *-ēr-ĕl*, a young cock. COCK-CROWING, the early dawn; also COCK-CROW. COCK-PIT, area where cocks fight; in a *ship of war*, a room appropriated to the use of the wounded during an action; it is near the after hatchway under the lower gun deck, adjoin-

COCK.

ing the surgeon's cabin and the nursery. **COCK-AND-BULL STORY**, a tedious, absurd tale; mere babble or boasting. **EVERY COCK ON HIS OWN DUNGHILL**, every one fights best at home, or with his friends to back him. **COCK-FIGHT**, a battle between game-cocks. **COCK OF THE WALK**, lord and master of all; the conqueror and leader, as a cock over his hens when he has conquered his rivals.

COCK, v. *kōk* [It. *coccare*, to snap, to click—a word imitative of a quick sudden motion in rising or starting up; Gael. *coc*, to hold up, to stick up]: to stick abruptly up; to cause suddenly to project or stick up; to set up with an air of pertness, as the head or hat; to set or draw back the part of a gun which snaps or clicks; to strut: N. the part of a thing which sticks abruptly up; the part of a gun which snaps or clicks; in a *balance*, the needle which vibrates to and fro between the cheeks; a twined or crooked spout to let out water at will (mid. L. *cochlō*, a bung or bung-hole). **COCK'ING**, imp.: **ADJ.** sticking up stiffly. **COCKED**, pp. *kōkt*: **ADJ.** turned up at the sides. **COCKED HAT**, a hat stuck up on one side of the head, then, a hat with stuck-up sides. **COCK'ER**, n. *-ēr*,



Cocker.

small kind of spaniel, similar to the Blenheim dog, often black. Its small size fits it for ranging in low and thick coverts, and it is much used by sportsmen in pheasant and woodcock shooting; but it must not be allowed to range to any considerable distance, as it cannot be trained to wait for the sportsman, but starts the game.

COCK-SURE, erectly or stiffly sure; confidently certain, as a cock from its bearing when going to fight. **COCKY**, a. *kōk'ī*, pert; saucy; quarrelsome. **COCK-A-HOOP** [F. *coq-à-huppe*, cock with the crest]: defiant and boastful, as a cock with erect crest; stuck up or impertinent; in high spirits. **COCK-EYE**, a squint eye. **COCK-LAIRD**, in *Scot.*, a small landed proprietor who puts on stuck-up important airs as if a large one; also a freeholder who paid cocks and hens to a superior. *Note.*—Cock, in the sense of part of the cock of a gun, is also referred to It. *cocca*, the notch of an arrow; *coccare*, to put the arrow on the bowstring: F. *coche*, the notch of an arrow. The term applied to bows and arrows, as weapons of war, being thus transferred to firearms—see *Skeat*.

COCK, n. *kōk* [Fin. *kokko*, a coniform heap, a hut: Dan. *kok*, a heap, a pile: Icel. *kōkkr*, a lump: mid. L. *cucho*; OF. *cuche*, a conical heap (see *Cock 2*)]: a small heap of hay or reaped corn. **COCK-LOFT**, a room over the garret; the room next the roof. **COCKED**, a. *kōkt*, thrown into heaps.

COCK, n. *kōk* [It. *cocca*; OF. *coque*; Dan. *kog*; Icel. *kuggi*, a small boat: mid. L. *cogo*, or *cocco*, a boat or vessel:

COCK—COCKADE.

Fin. *kōkka*, the prow of a vessel, being the part that sticks up (see **Cock** 2)]: applied to a small boat. **COCK'SWAIN**, or **COXSWAIN**, or **COXWAIN**, n. *kōk'sn* (familiarily spelled *coxen*): on board ship, a petty officer, the steersman of a boat, and commander of the boat's crew: he is expected to have his men always ready for service at short notice, and is furnished with a whistle to summon them.

COCK: properly, name of the male of the common domestic fowl (see **FOWL**), but generally extended to the males of other kinds of gallinaceous birds, and frequently used as a distinctive appellation of the males even of some kinds of small birds.

The ancients regarded the domestic C. as the companion of Mars, and in heraldry he is the emblem of strife, haughtiness, quarrels, and victory. Guillim has the following quaint eulogium on the cock: 'As some account the eagle the queen, and the swallow or wagtail the lady, so may I term this the knight among birds, being both of noble courage, and also prepared evermore to the battle, having his comb for a helmet, his sharp and crooked bill for a falchion to slash and wound his enemy; and as a complete soldier armed *cap-à-pie*, he has his legs armed with spurs, giving example to the valiant soldier to expel danger by fight, and not by flight. The cock croweth when he is victor, and giveth a testimony of his conquest. If he is vanquished, he shunneth the light and society of men!' The C. is said to have been the emblem of the ancient Gauls, who wore it on their helmets for a crest; and though the tradition does not rest on the authority of any medal or other monument, and is supposed to have been a mere play of words between Gallus, a cock, and Gallus, a Gaul, the C. was placed, after the Revolution, on the flags and ensigns of France.

As the emblem of watchfulness the image of the C. was placed on the summit of church-steeple from a very early period. It is introduced by artists among the emblems of our Lord's passion, in allusion to the apostle Peter's sin, and for the same reason it is assigned to that apostle as his emblem.

COCK DIVINATION, or **ALECTROMANCY**, is a method of divining in which a young white cock was made the principal actor. The method was to describe a circle, and divide it into as many equal parts as there are letters in the alphabet. Upon each of the spaces marked by its respective letter a grain of corn was placed; and the letters from which the fowl picked the grains, when put together, formed the name of the person about whom inquiry was made.

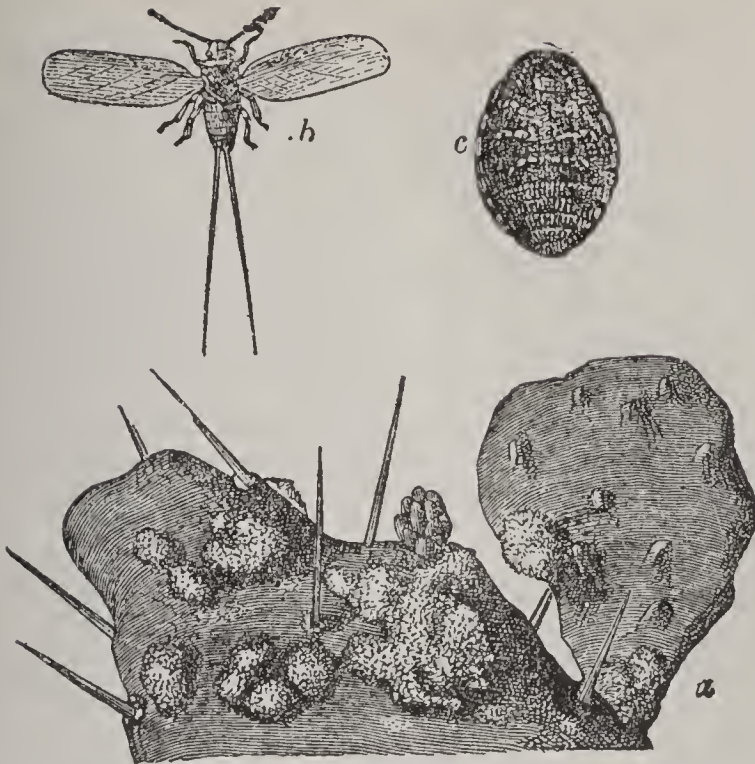
COCKADE, n. *kōk-kād'* [*F. coquarde*, a cap worn partly on the one side: Gael. *cocadh*, standing erect—from *coc*, to stick up]: according to Wedgwood, originally a cocked hat, or a hat with the broad flap looped up on one side; thence applied to the knot of ribbon with which the loop was ornamented. Another view is, that it is derived from *coquart*, a beau; one fond of gay trappings. The

word is now usually restricted to signify an appendage to the head-dress worn as a military or naval (and in some countries an ecclesiastical) distinction; sometimes, however, grooms or serving-men, especially of officers, wear such badges. COCKAD'ED, a. provided with a cockade.

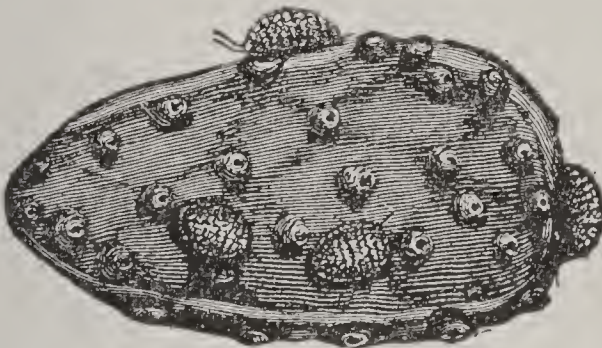
Badges of distinction were early had recourse to in party and civil warfare. A sprig of broom (*planta genista*) was the badge of the House of Plantagenet. In England, during the wars between the Houses of York and Lancaster, the adherents of the former party were distinguished by a white and the latter by a red rose worn in the cap.

The party organized at the court of Charles IX. of France to perpetrate the massacre of St. Bartholomew, recognized one another by a paper cross. The faction of the *Fronde*, opposed to Cardinal Mazarin, wore stalks of corn for the same purpose; and certain military bands were called *Lances vertes*, from decorating their lances with green twigs. The use of cockades, as marks of distinction in campaigns and battles, became very general about the beginning of the 18th c. Eugene and Marlborough gave the Germans, English, and Dutch, composing their army, a tuft of corn or grass as their signal or cockade. The use of the C. began to be more fixed in the war of succession. White being the color of France, and red of Spain, the two colors were united in the C. of the combined army. At last, in 1767, an authoritative regulation determined that every French soldier should wear a C. of white stuff; and in 1782, cockades were prohibited to all but soldiers. From this time till the revolution, the C. was an exclusively military badge; and, both in France and England, 'to mount the cockade' was synonymous with becoming a soldier. But in the enthusiasm of 1789, the citizens of France generally assumed the tricolored ribbon as the badge of nationality and patriotism, which was soon also given to the army. The three colors were blue, white, and red; white had long been the color of France and its kings; the blue is understood to have come from the banner of St. Martin, and the red from the Oriflamme (q.v.). Long before the revolution, the three colors were used in combination; they were given by Henry IV. to the Dutch, when they desired him to confer on them the national colors of his country, and have ever since been borne by the Dutch republic and kingdom of the Netherlands. At the restoration the white C. of the monarchy again took its place, but had to give way once more to the tricolor, which continues to be the C. of the French army.

Black, with some distinction, enters into the cockades of the German nations. The Austrian is black and yellow; and the Prussian was black and white, abandoned for the black, yellow, and white of the German empire. After the German war of liberation 1813, a national C. of black, red, and gold came into general use, and was afterward assumed by the military and by officials. The wearing of these German cockades was prohibited 1832 by a resolution of the German diet, but in 1848 they were again introduced, not only by patriots as a badge of German union,



Cochineal (*Coccus cacti*): *a*, Living on cactus (*Opuntia*); *b*, Male; *c*, Female.



Cochineal Insect on Cactus.



Tricolor-crested Cockatoo (*Cacatua Leadbeateri*).



Cockatrice: in Heraldry

but into the armies. The national colors of Belgium are black, yellow, and red. Cockades of these colors were worn by almost the whole population of Brussels on occasion of the constitutional festival, 1860, July 21. Cockades of green, white, and red are worn in Italy.

The continental C. is generally in the shape of a flat disk, sometimes of metal, sometimes of silk or other stuff, with the colors disposed concentrically.

In England, the badge of the Stuarts was a white rose; and after the expulsion of the family, the white C. became the distinctive mark of the adherents of the exiled family, in opposition to the orange of Nassau and the black of Hanover; it is a favorite theme in Jacobite songs. The great C., seen on the hats of many gentlemen's servants, was unknown in Britain till the accession of the House of Hanover, and was then introduced by George I. from his German dominions. It seems to be understood in that country that the right to use it belongs to naval and military officers, and the holders of some offices of dignity under the crown, including privy councilors, officers of state, supreme judges, etc.; but it is difficult to know where the line should be drawn, as the privilege is one of which the law takes no cognizance.

COCKATOO, n. *kök'-ă-tô'* [a word imitative of its cry: said to be a Malay word, *kakatuwah*, a vice, a gripe—from its strong beak], (*Ptyctolophus*): genus of birds of the parrot family, or *Psittacidae*, distinguished from parrots by the greater height of the bill, and its being curved from the base, and by the lengthened, broad and rounded tail. The head also is large, and in the true cockatoos is surmounted by a crest of long and pointed feathers, with their tips directed forward, which can be erected and expanded like a fan or depressed at the pleasure of the bird. The true cockatoos are also of generally whitish plumage, but often finely tinged with red, orange, and other colors, or mixed with these colors in more brilliant display. But the name C. is commonly extended to nearly allied genera, as *Calyptrorhynchus* and *Microglossus*, in both of which the plumage is generally dark, and to which belong the *black cockatoos* of Australia and of the Indian archipelago. The genus *Microglossus*, to which belongs the Great Black C., or Giant C. of New Guinea, is remarkable for the structure of the tongue, which is cylindrical, tubular, capable of being greatly protruded from the mouth, and terminates in a cloven, horny tip. All the cockatoos are natives of the regions already named. They abound in Australia. They live not only on fruits and seeds, but partly on insect larvæ. Some of them are frequently seen in confinement in Europe, particularly the Lesser Sulphur-crested C. (*Ptyctolophus sulphureus*), which, though of comparatively tame plumage, is a general favorite on account of its docility. None of the cockatoos learn to speak many words. Their name is derived from their own proper cry.

COCKATRICE, n. *kök'-ă-tris* [Sp. *cocotriz*; OF. *cocatrice*, a *crocodile*, of which it is a mere corruption]: fabulous

COCKBURN.

monster, represented as a cock with a dragon's tail, supposed to be hatched by a cock from a viper's egg, or to be hatched by a toad from an egg laid by a very old cock: the belief in its existence prevailed among the ancients and during the middle ages. It was sometimes distinguished from, and sometimes identified with, the basilisk (q.v.). It was always regarded as possessing similar deadly powers. For protection against it, travellers in Africa are said to have carried with them its relative, the cock, the crowing of which caused it instantly to expire. The word C. is sometimes used in the English version of the Old Testament; but all that can be affirmed of the meaning of the original Hebrew, is that it is the name of some venomous serpent, the term is applied sometimes to a beautiful fascinating woman of bad character who lures men to their ruin; sometimes to a virago or female tyrant. In heraldry, the C. is an imaginary monster, with the wings of a fowl and the tail of a serpent. *Note.*—COCKATRICE is derived by Dr. Charles Mackay, from Gael. *cocàtreise*, that which stands powerfully erect—from *cocadh*, standing erect; *treise*, power, strength, thus connecting it with anc. *serpent-worship*, and worship of the *phallus*. The meaning of *cockatrice* differs little from *basilisk*, except in being oftener applied to females, the termination indicating a connection with the fem. termination *ess*.

COCKBURN, *ko'bèrn*, Sir ALEXANDER JAMES EDMUND, D.C.L., LL.D.: 1802–80, Nov. 21: jurist. His father was British minister to Colombia, his mother a lady of Santo Domingo. He studied at Cambridge, was called to the bar 1829, and made queen's counsel 1841. He represented Southampton in parliament 1847–56, and was recorder of that city and of Bristol. Having ably defended Lord Palmerston's foreign policy, he was knighted and made solicitor-gen. 1850, Aug. He was attorney-gen. 1851–56, chief justice of common pleas 1856–59, and (having become a baronet, 1858, on his uncle's death) chief justice of the court of queen's bench. His degrees were received from Oxford and Cambridge 1870 and '74. As the British member of the Geneva tribunal of arbitration 1871 for the settlement of the *Alabama* claims, he pursued a peculiar course, which was commented on by Caleb Cushing, one of the United States counsel, in his *Treaty of Washington*, 1873. C. published his *Reasons for dissenting from the Decision*. The queen refused on moral grounds to permit his elevation to the peerage. He received the freedom of the city of London 1876, was chairman of the Cambridge Univ. commission 1878, and died in London.

COCKBURN, SIR GEORGE, Admiral: 1772, Apr. 22—1853, Aug. 19: b. London. He entered the navy at the age of eight, became a post-capt. 1795, contributed to the reduction of Martinique 1809, was thanked by the commons, and made rear-admiral 1812. He ravaged the American coasts 1813, burnt many villages and farmhouses on the Chesapeake and elsewhere, and profited by the confiscation of slaves and cattle. 1814, Aug. 24, he and Gen.

COCKBURN—COCKCHAFER.

Ross defeated a small United States force at Bladensburg, Md. entered Washington, and burned the capitol and other buildings. He carried Napoleon to St. Helena 1815; was returned to parliament for Portsmouth and made a lord of the admiralty 1818; vice admiral 1819; privy councilor 1827; admiral 1837; senior naval lord 1841-46, and admiral of the fleet 1851. He succeeded to his brother's baronetcy 1851. He died at Leamington, Warwickshire.

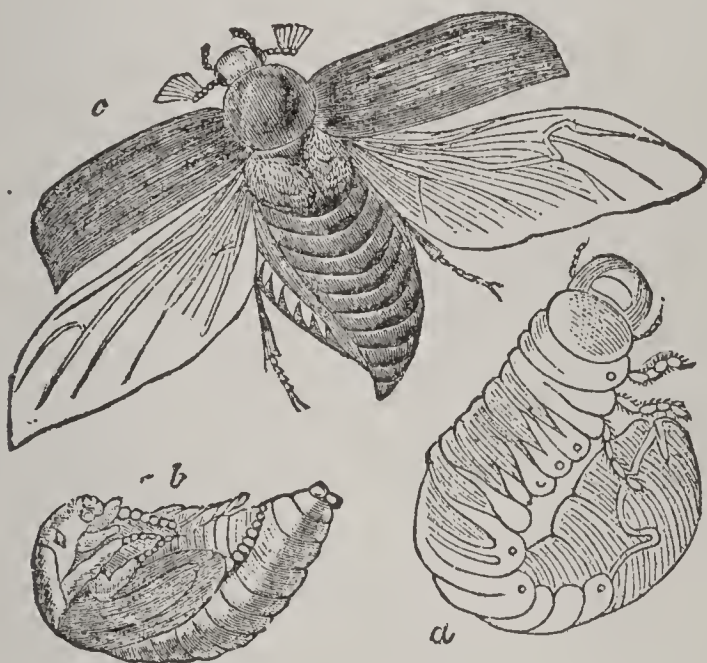
COCKBURN, HENRY, 1779, Oct. 26.—1854, Apr. 26; b. Edinburgh: Scottish advocate and judge. Sent to the University of Edinburgh at the age of 14, his powers began to develop, and though never distinguished as a student, he became the companion of Brougham, Horner, and Jeffrey, from whom he imbibed liberal opinions in politics, greatly to the annoyance of the hereditary toryism of his family. He was called to the Scottish bar in 1800, and abt. 1807-11 held a minor appointment as prosecutor assistant in criminal courts. With the introduction of jury trial in civil causes into Scotland 1816, his professional employment first became remunerative. In pleading a cause he was extremely simple, clear, and impressive, at times humorous, at times pathetic, always unaffected, and with a convincing earnestness and candor. He was appointed, 1830, solicitor-gen. for Scotland, and four years later one of the judges of the Scottish supreme, civil, and criminal courts, taking, according to custom, the title of Lord C. He died at his residence of Bonaly, near Edinburgh.

C. contributed to the *Edinburgh Review* a few articles, of which those on Scottish law reform had considerable influence. In 1852 was published the life of Jeffrey, his beloved friend. C.'s *Memorials of his Time*, which appeared posthumously 1856, is his most noted work. It is a kind of autobiography, into which have been interwoven numerous anecdotes illustrating old Scottish life, and numerous sketches of the men who compose the brilliant circle of Edinburgh society at the beginning of the 19th c. A portion of the MS., kept back until a date further removed from the times of which it treats, appeared 1874, entitled *Journal of Henry Cockburn*.

COCKCHAFER, n. kōk'chā-fēr [*cock*, and AS., *ceafor*, a beetle], (*Melolontha vulgaris*): a beetle of the family *Lamellicornes* (q.v.), and section *Phyllophagi* (leaf-eaters), famous for the ravages which it commits, both in the grub state and in that of a perfect insect, the winged beetle feeding on the leaves of fruit trees, and of many forest trees, as the sycamore, lime, beech and willow, the grub devouring the roots of plants, particularly of pasture grasses and corn. It is called, also, May-bug or door-beetle. The C. is fully an inch in length, of a pitchy black color, with a whitish down, giving a sort of powdered appearance; the sides of the abdomen marked by a range of triangular spots, the abdomen terminating in a point; the antennæ short, terminating in a club formed of six or seven leaflets. The grub is about an inch and a

COCKER.

half long, thick, whitish, with a red head and six legs. The C. does not live long after it has passed into its perfect state, but it lives nearly four years in the grub or larva state. The female C. deposits her eggs in the earth. The ravages of cockchafers were so great in some of the provinces of France in 1785 that the government offered a premium for the best mode of destroying them. The whole grass of a field has often been destroyed in a short time by their grubs, and the beetles themselves strip off the foliage of trees like locusts. They have sometimes appeared in prodigious numbers in some places in England;



Cockchafer (*Melolontha vulgaris*):

a, full-grown larva; b, pupa; c, perfect insect.

The river Severn is said to have been so filled with their bodies in 1574 that the water-wheels of the mills were clogged; and in 1688 they so abounded in the county of Galway, in Ireland, that they hung in clusters on the trees and hedges, like bees swarming; the noise of their countless jaws at work was heard by every traveller, and was compared to that of the sawing of timber.

COCKER, *v. kők'ér* [OF. *coqueliner*, to dandle, to pamper: W. *cocri*, to fondle, to indulge; *cocr*, a coaxing: comp. Gael. *ciocharan*, an infant at the breast—from *cioch*, a woman's breast]: to pamper; to fondle and spoil, as a child. COCK'ERING, *imp.*: N. fondling indulgence. COCK'ERED, *pp.* -*èrd*, daintily brought up; petted and spoiled, as a child.

COCKER: see under Cock 2. COCKEREL: see Cock 1.

COCKER, *kők'ér*, EDWARD: prob. abt. 1631 (or 2)—1671 (or between 1671 and '75); b. prob. in London: arithmetician. The first edition of his famous *Arithmetic* (which was the first to confine itself to commercial questions, and

COCKERELL—COCK-FIGHTING.

which has served as the model for the majority of school-treatises in that department since) was published, after his death, 1677, by John Hawkins, who came into possession of C.'s MSS. The expression 'according to Cocker' became common through its frequent use on the title-pages of arithmetical treatises following his method.

COCKERELL, *kők'er-él*, CHARLES ROBERT, R.A.: 1788, April 27—1863; b. London: architect. His excavation of the temple of Zeus at Ægina, 1811, contributed largely to the British Museum. He wrote monographs on the mausoleum of Halicarnassus and other archæological subjects. Advancing to the front rank of his profession he became an associate of the Royal Acad. 1829, a member 1836, and prof. of architecture 1839, delivering lectures which were highly esteemed and largely attended. As architect of the Bank of England from 1837, he conducted the alterations in its London house, and erected branch banks at Liverpool and Manchester. Among his other constructions were the new library at Cambridge, 1840, the univ. galleries at Oxford, 1845. The London and Westminster Bank, and the completion of St. George's Hall, Liverpool. He was happier in following classic models than in the Gothic style. He wrote on the *Iconography of Wells Cathedral*, on the *Sculptures of Lincoln and Exeter Cathedrals*, a *Tribute to the Memory of Sir Christopher Wren* (1838), *Descriptions to Michael Angelo* (1857), etc.

COCKERMOUTH, *kők'er'mouth*: parliamentary borough in the w. of Cumberland, England, of the Cocker and Derwent, 25 m. s.w. of Carlisle. It is delightfully situated in an agricultural district, and has a promenade a mile long along the Derwent. The ruins of a castle, founded in the end of the 11th c., stand on a bold height on the left bank of the Cocker, near its junction with the Derwent. The castle was besieged for a month by the royalists 1648, and afterward reduced to ruins by the parliamentarians. Near C. is a tumulus, with a Roman camp and ditch, 750 ft. in circuit. Many ancient relics have been found near C. There are manufactures of linens, woollens, cottons, hats, hosiery, and paper, and, in the vicinity, extensive coal mines. Wordsworth, the poet, was born here. C. returns one member to parliament. Pop. (1881) 5,354; (1891) 5,464.

COCKET, n. *kők'ët* [*F. cachet*, a seal—from *cachet*, to hide or conceal, as that which serves to hide the contents of the letter]: an official seal; a written certificate, sealed, given by the custom-house officers to merchants to show that their merchandise has been properly entered.

COCK-FIGHTING: act or practice of pitting cocks against one another; said to have originated with the Athenians. In the earlier part of English history since the conquest, little mention is found of it; but evidently it existed in the days of Thomas-à-Becket, and until the time of the commonwealth it flourished, the pit at Whitehall

COCK LANE GHOST.

having been erected and patronized by royalty. It was prohibited by Puritan legislation 1654; and other acts prohibitory of it have since been passed.

The greatest point considered in choosing cocks, is the breed. Formerly, there were established favorites, and very large sums were given for their chicks. Much art is said to be displayed in the training of cocks, and in trimming and preparing the cock for the combat; the fastening on of the spurs is a matter of importance. Young cocks are called stags; two years is the best age. In fighting a match, a certain number of cocks to be shown on either side is agreed on, and the day before the match, the cocks are shown, weighed to the greatest nicety, and matched according to their weights. Their marks all are carefully set down, to prevent trickery. The cocks within an ounce of each other in weight are said to '*fall in*,' and are matched. Those which do not fall in, are matched to fight what are called '*byes*.' Those which do fall in, come into the *main*. The main is fought for a stake upon each battle, and so much for the main, or the winner of the most battles in the main; while the byes have nothing to do with the main, and are usually fought for smaller sums. Should the numbers be equal, so that the main cannot be decided, it is usual to separate two or more cocks which are matched to fight, and are of equal or a dead-weight, and to give or take an ounce either way with one of each of the birds which would fall into the byes, so as to make an uneven number.

A middling size is considered the best—from three lbs. six oz. to four lbs. eight oz. Cocks sometimes fight in silver spurs, but more often in steel. The laws of fighting are very precise and particular.

To lend to brutes the means of destroying each other, and of rendering their conflicts more deadly than nature ever intended them to be, is a degrading act, and the spectacle which it offers is only demoralizing. This sport, even in its lightest and least objectionable form, is cruelty. But the practice of placing a bird, that has perhaps been crippled in combat, down, without even his natural weapons, before a young stag armed, in order that the stag may be taught the art of killing, and the Welsh main, where the cocks fight until only one is left alive, are too disgustingly cruel to be thought of without indignation. C. continues in spite of legal prohibition.

COCK LANE GHOST: an absurd delusion which has become historical. In 1762, London was excited by the report of a ghost in the house of a Mr. Parsons, in Cock Lane, Smithfield. Strange and unaccountable noises were heard in the house, and a luminous lady, bearing a strong resemblance to one who, under the name of Mrs. Kemt, had once resided in the house, but who had died two years before, was said to have been seen. Suspicions as to Mr. Kemt having poisoned the lady were immediately aroused, and were confirmed by the ghost, who, on being interrogated, answered, after the fashion of the spirits of our own

COCKLE.

day, by knocking. Crowds, including Dr. Johnson, were attracted to the house to hear the ghost, and the great majority became believers. At length a plan was formed by a few skeptics to ascertain the real origin of the noises. The girl, from whom the sounds were supposed to proceed, was taken to another house by herself, and threatened with the imprisonment of her father in Newgate if she did not renew the rappings that evening, the noises having for some time been discontinued. She was observed to take a board with her into bed, and when the noises were heard, no doubt was entertained that they had all along been produced by similar methods. A prosecution was then raised by Mr. Kemt, and Parsons was condemned to stand thrice on the pillory for imposture and defamation.

COCKLE, v. *kők'kl* [Dut. *kokelen*, to deceive the eye by rapid movements of the hands: W. *gogi*, to agitate, to shake: Gael. *gog*, a nodding or tossing]: in *OE.*, to shake or wave up and down, as water; to be uneven; to shrink unevenly; to pucker. **COCK'LING**, imp. **COCKLED**, pp. *kők'kld*.

COCKLE, n. *kők'kl* [Gael. *cogall*, tares, husks, the herb cockle: Ir. *cogal*, corn-cockle, beards of barley: OF. *coquiol*; Pol. *kakol*; AS. *coccel*, cockle], (*Agrostemma*): genus of plants of the nat. ord. *Caryophyllæ*, in which the flower has ten stamens and five styles; the five teeth of the leathery naked calyx are much longer than the tube of the corolla, and the capsule is perfectly 1-celled. The common C., or corn C. (*A. Githago*), is a frequent weed among crops of grain, a native of Europe or the w. of Asia, but now to be found in almost all parts of the world. It is an annual plant, clothed with very long hair; with large, solitary, terminal lilac flowers. The root, stem, leaves, and seed were formerly used in medicine; the seed is still sometimes sold in Germany under the name of black cumin (*schwartz-kümmel*). The name C. is applied generally to any wild flower or weed that grows abundantly among grain.



Corn Cockle.

COCKLE, n. *kők'kl* [F. *coquille*, a cockle—from L. *conchyl'ium*, a shell-fish: L. *cochlëä*; Gr. *kochlos*, a snail, a shell-fish; Gael. *cochull*; Ir. *cochal*, a husk, a shell], (*Cardium*): genus of lamellibranchiate mollusks, having a shell ribbed or grooved on both sides, the sides being two equal ventricose valves, more or less of a heart-shaped appearance. The animal has two *adductor* muscles for drawing the valves closely together; its foot is remarkably large, and bent in the middle, and is capable

COCKNEY—COCK OF THE PLAINS.



Cockle with Valves open,
showing the Foot.

being suddenly straightened, so that the animal may move by a jump. Usually the foot is employed for excavating a hole in the sand or mud, in which the C. burrows: and when used for this purpose it is distended by being filled with water. Cockles are usually gregarious, and vast numbers are found on sandy and muddy banks. The common C. (*C. edule*) is very abundant on sandy parts of the British shores, and is a valuable shell-fish for food. The number of known species is about 200; most numerous within the tropics, particularly in the Indian ocean.—The genus *Cardium* is made the type of a family *Cardiadae*, and of an order. *Cardiaceæ*, which includes *Veneridae*, *Macridae*, *Tellinidae*, and other families. COCKLE, v. to contract into folds or wrinkles. COCKLED, pp. *kok'kld*, having a turbinated or twisted shell. COCKLE-SHELL, the shell of the cockle; worn by palmers as a sign of their having performed the pilgrimage to the shrine of St. James at Compostello, in Spain. COCKLE-STAIRS, winding or spiral stairs.

COCKNEY, n. *kök'nî* [F. *cocagne*, a plentiful country, a Utopia where there is abundance without labor: OF. *coquelinier*, to cocker, to pamper]: one born in *Cocaigne*; an anc. nickname for a citizen of London—now applied by way of contempt; a person born in London; a town-bred person ignorant and contemptuous of familiar country things; a spoiled or effeminate child. *Note.*—COCKNEY seems to have indicated the opinions of rural minds that London must be the place of plenty and riches to all—the identical idea entertained by Whittington in the well-known nursery story. We have F. *cocagne*—from OF. *quaigne*, an imaginary land in mediæval mythology, in which the houses were made of cakes, and, by a natural extension, the streets paved with gold. Skeat says OE. *cokeney* (the oldest form of the word, trisyllabic, used of an effeminate person) resembles the W. *coeginaidd*, conceited, coxcomb-like—from *coegyn*, a conceited fellow: Gael. *goigeanach*, coxcomb-like, and that the true origin of cockney may after all be found in Welsh.

COCK OF THE PLAINS (*Tetrao* or *Centrocercus urophasianus*): largest of the N. American species of grouse. It is about one-third smaller than the European capercaillie (q.v.), or cock of the woods. Its plumage is dense and soft, the prevalent color yellowish-brown, but beautifully mottled and varied with darker tints; the under parts white, with dark streaks and patches. On each side of the neck is a large bare space, capable, when the bird struts,

COCK OF THE WOODS—COCKROACH.

of being inflated into a hemispherical sac. The female is smaller, and of less showy plumage than the male, and is destitute of the neck-sacs. This bird is an inhabitant of the plains on the upper parts of the Columbia, and in the



Cock of the Plains.

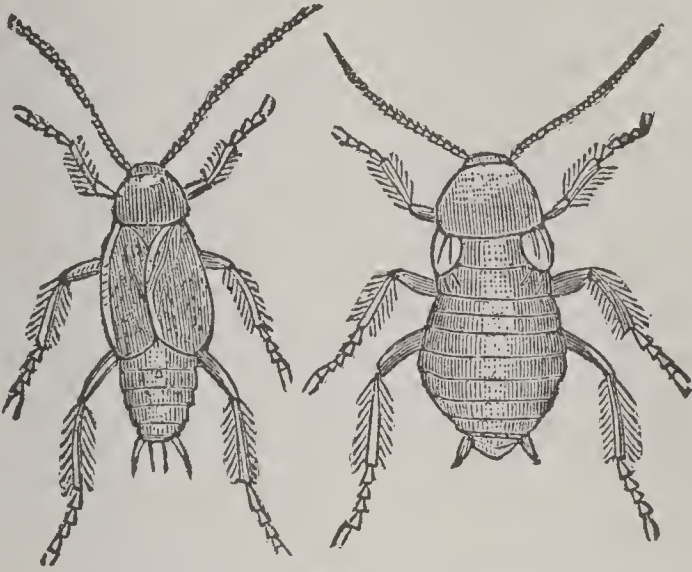
interior of California, living in flocks, and often feeding so much on *Artemisia* that its flesh is almost too bitter to be eaten.

COCK OF THE WOODS: see CAPERCAILZIE.

COCKROACH, n. *kōk'rōch* [corrupted from Sp. *cucaraca*, a cockroach], (*Blatta*): genus of orthopterous (q.v.) insects, having an oval or orbicular flattened body, the head hidden beneath the large plate of the prothorax, long, thread-like antennæ, and wings folded only longitudinally. The elytra are parchment-like, and the wings are sometimes very imperfectly developed, particularly in the females, as in the case of the common cockroach. The eggs of these insects are collected in a sort of shell fixed to the abdomen of the mother, which at last she deposits in a suitable situation, attaching it by a glutinous secretion. The larvæ, when hatched, discharge a fluid which softens the cement that holds together the toothed edges of a longitudinal slit in this remarkable shell, and, emerging through it, at once enter upon active life. They are very similar in form to the perfect insects, and, like them, very voracious. Cockroaches are most numerous in warm countries, and even the common *C. B. Orientalis*—well known pest in many houses, particularly in towns, and, though not a coleopterous insect, often called the BLACK BEETLE—is said to have been imported from southern countries, but its native country is uncertain. It is a nocturnal insect, concealing itself in holes during the day, and fleeing on the approach of a candle. It devours both animal and vegetable substances; and a dark-colored fluid, which it emits from its mouth, gives a disgusting smell to the places where

COCKSCOMB.

it abounds. A tame hedgehog is useful in reducing the numbers of these pests. Another excellent method of getting rid of cockroaches, is to place a washing-basin on the floor, with a little molasses in the bottom. A piece of wood resting between the floor and the edge of the basin, conducts the C. to the fatal trap, from which the slipperiness of the sides of the basin prevents their exit. In this



Cockroach—Male and Female.

way thousands of 'black beetles' may be caught in a single night. Persian powder (*lycopodium*) scattered freely in all corners of rooms and closets, and in all holes, is disagreeable to them, and often drives them away. Borax in fine powder plentifully blown by a small bellows (sold for the purpose) into all crevices in floors, will drive away the common C. and its frequent companion, the 'water-bug.' But the insect has migratory habits, and may return to a house suddenly, unless the borax be applied repeatedly—say once a month. The common C. is only about an inch long, but some of the tropical ones are much larger, and are more troublesome because of their frequent use of their wings. The KAKERLAC, or American C. (*B. Americana*), native of the warm parts of America, has found its way into Europe, and infests some seaport towns. A small species (*B. Lapponica*) is very common in Lapland, sometimes doing great injury by devouring the winter stores of salted fish.

COCKSCOMB, n. *kōks'kōm* [from Cock 1]: the red fleshy substance on the head of a cock. COXCOMB, n. *kōks'kōm*, a fop; a vain silly fellow.

COCKS'COMB [see Cock 1], (*Celosia cristata*): annual plant of the nat. ord. *Amarantaceæ*, native of the E. Indies, familiar inmate of conservatories, often, also planted out in gardens. It grows with an upright stem, which becomes flattened upward, divides, expands, and forms a sort of wavy crest, covered with pointed bracts, and bearing on its surface many very small flowers so crowded as often to present a rich velvety appearance, somewhat like the comb

COCKS-FOOT GRASS—COCOA.

of a cock. The colors are various, and often very brilliant.

COCK'S-FOOT GRASS (*Dactylis*): genus of grasses, having the panicle of flowers much on one side of the stem, its secondary branches so short that the spikelets are much crowded into clusters; the glumes unequal, the larger one keeled; each spikelet containing 2-7 florets, each of which has two lanceolate scarcely-awned paleæ. This genus is closely allied to fescue (*Festuca*), but differs in habit. The common or rough C. G. (*D. glomerata*), is a native of Europe, Asia, N. America, and n. Africa. In the United States this grass is known as orchard grass, and is much cultivated. It grows in tufts by waysides, in meadows, woods, etc., from the level of the sea to high altitudes on the mountains. It forms an important part of almost all the best natural pastures, is much relished by cattle, and grows with great rapidity after it has been cut, yielding a large quantity of herbage, and thriving well on most kinds of soil, and in situations too shady for many other grasses. It is therefore frequently sown with other grasses. An improved variety, of greater size than the ordinary has been introduced into cultivation. To this genus belongs also the **TUSSAC GRASS** (q. v.).

COCK'S-SPUR THORN: see **CRATÆGUS**.

COCKSWAIN or **COXWAIN**, n. *kōk'sn*, but often **COXEN** or **COXUN**, n *kōk'sn* [from *cock*, in the familiar slang sense of a petty chief: Eng. *swain*, a young man, a rustic]: the steersman of a boat who has the command in the absence of an officer: see under **COCK** 4. *Note*.—This petty officer on board ship is said to be so named because his steering was influenced by the position of the weather-cock which, in former times, was a prominent object on a vessel.

COCKTAIL, n. *kōk'tāl* [see **COCK** 2, and **TAIL**]: half-bred or under-bred, said of a horse.

COCLES, *kō'klēz*, **HORATIUS**: hero of ancient Rome, celebrated by Livy (ii. 10) and in Macaulay's *Lays*. When Lars Porsena was about to take the city, A. U. C. 246 (about B. C. 507), C. saved it aided by Spurius Lartius and Titus Herminius, by holding the Sublician bridge against the whole Etruscan army. When the bridge was nearly hewn down, he sent his comrades back, and continued the fight alone; when it fell, he committed himself to 'Father Tiber,' and, wounded, swam with his arms to the farther bank. His statue was erected in the comitium, and as much land granted him as he could plow round in a day. According to a less pleasing tradition, he fought alone and lost his life. Livy admits that his exploit 'in after times was more generally celebrated than believed.'

COCO, n. *kō'kō*: a variety of monkey, so called from its cry.

COCOA, n. *kō'kō* [Port. *coco*, an ugly mask to frighten children, so called from the monkey-like face at the base of the nut], (the now common way of spelling **CACAO**): substance of different kinds consisting of, or prepared from, the seed of trees of the genus *Theobroma*.

COCOA.

The genus *Theobroma* [Gr., food of the gods] belongs to the nat. ord. *Byttneriaceæ*, and contains a number of species, trees of moderate size, with large, undivided leaves and clustered flowers, all natives of tropical America. It is distinguished by a 5-leaved calyx; five petals, concave at the base, and extended into a strap at the apex; the stamens united at the base into a cup, which is divided upward into ten segments, five tips being without anthers, and the other five, alternate with them, bearing two anthers each; a thread-like style, terminating in a 5-partite stigma; the fruit a 5-angled capsule, of a substance between leathery and woody, not splitting when ripe, 5-celled, and containing many seeds in a pap-like or butter-like pulp. The seeds of several species yield more or less of the C. of commerce. By far the most important species of this genus is *T. Cacao*, to which the name C. tree is often exclusively appropriated. It is extensively cultivated in tropical America and the W. Indies, and its cultivation has been introduced into some parts of Asia and Africa. It generally rises with a bare stem to the height of only six or seven ft., dividing into many branches, and attaining a height of only 16 or 20 ft. altogether, although it is sometimes twice that height. The fruit is somewhat like a cucumber in shape, and is six or eight inches long, yellow, and red on the side next the



Theobroma Cacao.

sun; the rind is thick and warty, the pulp sweetish, and not unpleasant; the seeds numerous, compressed, and not unlike almonds, with a thin, pale, reddish-brown, fragile skin or shell, covering a dark-brown, oily, aromatic, bitter kernel, which consists mostly of the wrinkled cotyledons. These seeds are the C. *beans* of commerce; when bruised so as to be reduced to small pieces, after being shelled or de-

COCOA.

corticated, they become *C. nibs*. The *C.* tree produces larger seeds in cultivation than in a wild state. The tree attains its full vigor and productiveness in seven or eight years, and generally yields two principal crops in the year. When gathered, the fruit is subjected to five days' fermentation in earthen vessels or in heaps on the ground, and then opened by the hand, and the seeds dried by the sun or by fire; or it is buried for a while in the earth, till the pulp becomes rotten. The latter method is said to produce the best cocoa (*earthed C.*, or *Cacao terré*).

C. is very nutritious. The principal constituent of *C.* beans is the soft, solid oil called *C. butter*, which forms more than 50 per cent. of the whole shelled bean, about 22 per cent. being starch, gum, mucilage, etc., and 17 per cent. being gluten and albumen. They contain also a crystallizable principle called *Theobromine*, analogous to caffeine (q.v.), but more nitrogenous.

For dietetic use *C.* is prepared in several ways. It is made into chocolate (q.v.); it is crushed into *C. nibs*, the purest state in which *C.* can be purchased in shops; or the unshelled bean is powdered in a hot mortar, or between hot rollers, which yields a paste capable of being mixed with sugar, honey, starch, etc., sold in shops under the name of soluble *C.*, rock *C.*, and common cocoa.

C. is eaten in the solid state in the form of cakes and bonbons, or is scraped down, and treated with boiling water or milk. When *C. nibs* are infused like coffee with water they yield a highly palatable beverage, much lighter than any other infusion of cocoa. The large quantity of oily matter present in the bean tends to make the various infusions thick and heavy, so that they do not agree with some delicate stomachs. The annual consumption of *C.* is upward of 100 millions of pounds.

An infusion of the broken and roasted shells of *C.*-beans is sometimes used in the same way as tea or coffee. The pulp of the fruit is eaten in the countries in which the tree grows, and a kind of spirit is obtained from it by fermentation and distillation. COCOATINE, n. *kō'kō-tin*, a pure cocoa-powder, having a great deal of the fatty matter extracted.

COCOA-NUT.

CO'COA-NUT, or Co'co-NUT: the large nut which is the well-known fruit of a species of palm, *Cocos nucifera*, perhaps originally native only of the Indian coasts and South Sea Islands, but now diffused over all tropical regions. The C. palm belongs to a genus having pinnate leaves, and male and female flowers on the same tree, the female flowers at the base of each spadix. The genus is distinguished further by a simple 3-celled ovary, which is succeeded by a coarse, fibrous, 1-celled drupe, two of the cells becoming abortive. There are about 18 known species, all natives of S. America, except the most important, the C. palm itself. The American species prefer dry and somewhat elevated districts. The C. palm, on the contrary, is seldom found at any considerable distance from the sea-coast, except where it has been introduced by man, and generally thrives best in sandy soils near the sea.



Crown of Cocoa-nut Palm with Fruit.

It is always one of the first of the larger plants to establish itself in the low islands of the Pacific ocean, so soon as there is soil enough. It has a cylindrical stem, about two feet in diameter, and from 60 to 100 ft. high, with many rings marking the places of former leaves, and bearing at its summit a crown of from 16 to 20 leaves, which generally curve downward, and are from 12 to 20 ft. in length. The flowers proceed from within a large pointed spathe; the fruit grows in short racemes, which bear, in favorable situations, from 5 to 15 nuts; and 10 or 12 of these racemes, in different stages, may be seen at once on a tree, about eighty or one hundred nuts being its ordinary annual produce. The tree bears fruit in from seven to eight years from the time of planting, and continues productive for 70 or 80 years. Of the three round black scars at one end of the shell, the one which alone can be easily pierced with a pin, and through which an opening is commonly made to get out the *milk*, is the destined outlet of the germinating embryo, which is situated there, the kernel consisting generally of the albumen (q.v.) destined for its nourish-

COCOA-NUT.

ment. The thick husk is remarkably adapted to the preservation of the seed, while the nut is tossed about by the waves, until it reaches some shore far away from that on which it grew.

The C. affords to the inhabitants of many tropical coasts and islands great part of their food; it is eaten not only as it comes from the tree, both ripe and unripe, being filled in a young state with a pleasant milky fluid, but is also prepared in a variety of ways, as in curries, etc.

The kernel of the C. contains more than 70 per cent. of a fixed oil, called C. OIL, or C. BUTTER. The oil is itself an important article of commerce, being much employed in Europe, particularly for the manufacture of *Stearine candles*; and also of a *marine soap*, which forms a lather with sea-water. In tropical countries, and particularly in the east, it is much used as a lamp oil, and as an unguent. It is also employed as an article of food, so long as it remains free from rancidity, to which, however, it is very liable. It is obtained by pressure of the bruised kernel, or by boiling over a slow fire, and skimming off the oil as it floats on the surface. A quart, it is said, may be obtained from seven or eight cocoa-nuts. It is liquid in the ordinary temperatures of tropical countries, but in colder climates, becomes a white, solid, butter-like oil. It becomes liquid about 74° F. It can be separated by compression in the cold into a more liquid portion called *oleïn*, and a more solid part termed *cocosteārin*, or *cocosin*, which is of complex constitution, and contains at least six fatty acids. C. oil is not a good lamp oil, as it chars on the wick, and burns with smoky flame. This remark applies also to the *oleïn* obtained from it, which, however, is used mixed with sperm oil, but it lowers the value of the sperm oil. C. oil and resin melted together yield a substance capable of being used with success in filling up the seams of boats and ships, and, in tropical countries, for covering the corks of bottles, as a protection from the depredations of white ants.

The root of the C. palm has narcotic properties, and is sometimes chewed instead of the areca-nut.—When the stem is young its central part is sweet and eatable; but when old this is a mass of hard fibre.—The terminal bud (*Palm cabbage*) is esteemed a delicacy, and trees are often cut down for the sake of it.—The saccharine sap (*toddy*) of the C., as of some other palms, is an esteemed beverage in tropical countries, either in the state in which it is obtained from the tree, or after fermentation, which takes place in a few hours; and from the fermented sap (*palm wine*), a spirituous liquor (*arrack*) is obtained by distillation. The juice is often also in the East Indies boiled down to yield sugar (*jaggery*).

The dried leaves of the C. palm are much used for thatch, and for many other purposes, as the making of mats, screens, baskets, etc., by plaiting the leaflets. The midribs of the leaves supply the natives of tropical coasts with oars.—The wood of the lower part of the stem is very hard, takes a beautiful polish, is employed for a great variety of purposes, and is exported to Europe for ornament-

COCOA-NUT BEETLE—COCOON.

al joinery, under the name of PORCUPINE WOOD.—The fibrous centre of old stems is made into cordage.—By far the most important fibrous product of the C. tree is COIF (q.v.), the fibre of the husk of the imperfectly ripened nut. The husk of the ripe nut is used for fuel, and also, when cut across, for polishing furniture, scrubbing floors, etc.

The shell of the C. is made into cups, goblets, ladles, etc., and is often finely polished and elaborately ornamented by carving.—Within the nut there is occasionally found a small stony substance of a bluish-white color, 'a sort of vegetable bezoar,' called an Indian *Calappa*, which is eagerly purchased by the Chinese, who ascribe great virtues to it as a sort of amulet to preserve them from diseases.

Cocos butyracea, one of the S. American species of this genus, is a very large tree, and its nut abounds in an oil and butter of similar quality to that obtained from the cocoa-nut.—The DOUBLE C. of the Seychelles Islands is the fruit of a palm of a different genus.

COCOA-NUT BEETLE (*Batocera rubus*): large beetle of the family *Longicornes* (q.v.), tribe *Lamiarice*, the larvæ of which are very destructive in cocoa-nut plantations, eating their way in all directions in the stems of the younger trees. They are destitute of feet, large and pulpy, and of repulsive aspect; but are esteemed as a luxury by the coolies of the East. They resemble the *grugru worms* of S. America.

COCO-MARICOPAS, *ko'ko-măř-ě-kō'paz*, or **MARICOPAS**: Indian tribe of Arizona. Originally living on the Colorado river, they were found, 1775, on the Salinas. They are now settled with the Pimas on a reservation 25 m. long and 4 m. wide on the Gila, and occupy a valley about lat. 33° 10' n., long. 112° w., intersected by canals cut from the river. By this irrigation they raise wheat, maize, and vegetables, which form most of their diet; though they have horses, mules, and cattle, they chiefly use the hoe. Their houses, 5 to 7 ft. high and 15 to 25 ft. across, are made of stakes, poles, cornhusks and straw, each having a shed and granary, and surrounded by gardens and fields fenced with stakes and brush. They raise good cotton, which they spin and weave into blankets, cloths for the loins, and bands for the waist or head; these, with raw-hide sandals, constitute their only clothing, and are worn but moderately. They produce ornamented cups, vases, jars, and basins, similar to those found in ruins of New Mex. Their hair is cut or 'banged' in front, and never tied; the women are tattooed in two blue lines from the corners of the mouth to the chin. They believe in a great spirit, and expect to be changed after death to birds and animals on the Colorado, and to keep up their ancient feuds. Their language is different from that of the Pimas, and allied to that of the Yumas and Comeyas. Their numbers are small and dwindling.

COCOON, n. *kō-kón'* [F. *cocon*—from L. *concha*, a shell]: the round silken envelope which the larvæ of the silk-worm and of many other insects spin for themselves im-

COCTION—COD.

mediately before their transformation into the pupa state, and which serves for the protection of the inactive and helpless pupa. The name is sometimes extended to coverings formed of other materials, by agglutination or otherwise. Many insects mix foreign materials of various kinds with their silken cocoons; some caterpillars, as those popularly called *wooly bears*, working into them the hairs with which their own bodies were previously covered; and others fastening together the sides of a leaf or of several adjacent leaves. Some of the moths, which attach their silk to leaves, so that the leaf itself forms part of the protective covering of the pupa, proceed with a mathematical nicety as to the position and direction of their threads, more wonderful, if possible, than even that exhibited by bees in the building of their comb. The silken substance of which cocoons are made, is produced much more abundantly by some kinds of larvæ than by others; the cocoons of some being only an open network, while others form a compact ball. The C. of the common silk-worm shows externally a loose gauze-like covering, within which is a close and compact oval ball; yet all is of one continuous thread, which may be unwound from it 1,000 ft. long. Different parts of this thread are of different qualities, but the stronger part of it may be unwound as easily as a ball of cotton. The insect works from the outside inward, and the outer parts of the C. are produced first. The spinnerets by which the C. of the silk-worm and those of other moths are produced, are situated at the mouth of the caterpillar; but the larvæ of a few insects—not lepidopterous—have them at the opposite extremity of the body. The time occupied in spinning the C. is very various in different insects; in the silk-worm, it extends to several days.—Cocoon is also a chitinous capsule in which a leech or earth-worm deposits its eggs; the silken case which a spider weaves for its eggs. COCOON'ERY, n. -ēr-ī, a building where silk-worms are fed while preparing to envelop themselves in cases or cocoons.

COCTION, n. *kōk'shūn* [L. *coctiōnēm*, a digestion]: the act of boiling. COCTILE, a. *kōk'tīl*, made by baking or heat.

COCUM OIL, *kō'kum*: solid oil or vegetable butter, obtained from the seeds of *Garcinia purpurea*, an Indian tree of the same genus with the mangosteen. It is white or pale greenish yellow, brittle or friable, with a faint and not unpleasant odor. It melts at 95° F., but when cooled after being melted, remains liquid to 75° F. It is used for mixing with ghee (butter), and is exported to Europe and elsewhere for mixing with bear's grease in the manufacture of pomatum.

COCYTUS *kō-sī'tūs*: name given by the ancients to a river of Epirus, fed by the snows of Pindus, and which, after a long underground course, was regarded as falling into the Acherusian lake: see ACHERON.—Cocytus was also the name of a river of the infernal regions, a branch of the Styx.

COD, n. *kōd* [Icel. *koddi*, a cushion: Sw. *kudde*, a sack

COD—CODDINGTON.

W. cód, a bag]: any husk or case containing the seeds of a plant; a pod. **Cod'DED**, a. inclosed in a cod, as in beans or peas.

COD, n. *kōd* [Flem. *kodde*, a club—from its large club-shaped head], (*Gadus Morrhua*, or *Morrhua vulgaris*): a fish of the family *Gadidæ* (q.v.), almost rivalling the herring in importance to mankind. The genus to which it belongs is distinguished by having three dorsal fins, two anal fins, and a barbule beneath the chin. The C. sometimes attains a weight of 100 lbs.; but even from a small size, it is in request for the market and the table. The roe of the female has been estimated to contain from four to nine millions of eggs, a reproductive power which seems beneficently intended to provide supply for far more extensive fisheries than are yet carried on. The C. is found in all the n. parts of the Atlantic ocean, and in the Arctic seas. It is not known in the Mediterranean. It occurs both on rocky coasts and on sandbanks, where the largest are usually caught in depths of 25 to 50 fathoms. The productiveness of the great banks of Newfoundland exceeds that of all others, but the cod-fisheries near the coasts of Sweden, Iceland, and the n. of Scotland also are important. The Dutch were engaged in the cod-fishery as early as the middle of the 14th c., and the English resorted for this purpose to the coasts of Iceland about the same period. The French also have engaged largely in the cod-fishery. More than 6,000 European vessels are said to be employed in it, besides boats along the shores. The fishery is always carried on by means of lines and hooks, partly by *long-lines*, partly by *hand-lines*. One man has been known to catch from 400 to 550 fish, on the banks of Newfoundland, in 10 or 11 hours; and eight men to take 1,600 in a day on the Dogger Bank. The C. is very voracious. Small fishes, shell-fish, etc., are used for bait. The C. is used as food, either fresh, salted, or dried. Great quantities of dried C. are carried from Newfoundland to the W. Indies, and are consumed also in the Rom. Cath. countries of the s. of Europe. *Cod sounds* are esteemed a delicacy, and are often salted, and so sent to market. They are also dried and used as isinglass. The recent discovery of the medicinal value of cod-liver oil (q.v.) has added to the economical importance of this fish.

Rock C. and **RED C.** are names given to the common C. when its color is somewhat affected by living among weedy rocks.—A young cod is called a *Codling*.—**BALTIC C.** is a name of the dorse (q.v.).

CODA, *kō'da*, in Music: ending of a composition by an extra melodic phrase, for more completely establishing the final cadence. It may be compared to the peroration of an oratorical discourse.

CODDINGTON, *kōd'ing-ton*, **WILLIAM**: 1601–78. Nov. 1; b. Lincolnshire: a founder of R. I. He emigrated in Winthrop's party 1630, and was a magistrate of Boston till 1637, and then deputy to the court. Sympathizing with Vane, Wheelwright, and Mrs. Hutchinson, he left with a

CIDDLE.

party of 18, and under Roger Williams's advice settled Aquidneck. He was gov. of the island 1640-47, till it was incorporated with Providence plantations. Disliking this union, he sought to obtain independence; going to England, 1649, he obtained from the council, 1651, a commission as gov. of the islands of R. I. and Conanicut. This was revoked through the interception of Williams, 1652, Oct., but C. would not surrender the records or submit till 1655, and was for sometime in disfavor. He became a Quaker 1665, and was elected gov. 1674-75 and 1678. He published a *Demonstration of True Love unto you the Rulers of Mass.* (1674). The R. I. *Hist. Tracts*, No. 4 (1878) narrate his connection with the colony.

CIDDLE, v. *kõd'dl* [OF. *cadel*, a starveling; L. *catulus*; Prov. *cadel*, a whelp; Gael. *cadail*, to sleep; *codail*, to put to sleep]: to nurse a sick ailing one constantly and fondly; to pamper or treat delicately; to parboil; to soften by means of hot water. CODDLING, imp. *kõd'ling*. CODDLED, pp. *kõd'ld*. CODLING, n. *kõd'ling*, or COD'LIN, n. *-lin*, an apple fit for boiling or baking, the trees bearing these varieties of apple, are often propagated by layers or suckers or even by slips; and trees thus obtained become fruitful much sooner than grafted trees. CODLING (or CODLIN) MOTH, a small moth sometimes very injurious in apple-orchards, laying its eggs in the eyes of the newly formed fruit, within which the larva feeds, causing the premature fall of the fruit; the moth is the *Pyralis pomona*, one of the *Tortricidæ*, with rather short and broad wings; the caterpillar has 16 feet. *Note*.—The primary sense of *coddle*, was to 'castrate,' and hence 'to render effeminate,' being simply a formation from the *cod* or bag of the testes: the origin of *coddle*, in the sense of 'pamper,' is correctly given above.

CODE.

CODE, n. *kōd* [F. *code*—from L. *codicē*m, the trunk or body of a tree, a book: It. *codice*; Gael. *coda*, law, equity]: laws collected and arranged, particularly if done by authority. **CODEx**, n. *kō'dēks*, n. plu. **CODICES**, *kōd'ī-sēz* [L.]: any written document, generally an ancient one; an anc. manuscript, especially of the Holy Scriptures: see **BIBLE**, **THE**: also **ALEXANDRIAN CODEx**, etc. **CODICIL**, n. *kōd'ī-sīl* [F. *codicille*—from L. *codicil'lus*, a small trunk of a tree, a writing tablet]: an addition or supplement made to a will, whereby anything omitted is added, or any change demanded by the altered circumstances of the testator or the beneficiaries, is effected: it is authenticated in the same manner as a will, and possesses the same privileges when holograph, or written by the hand of the testator himself: see **TESTAMENT: WILL**. **COD'ICIL'LARY**, a. *-lēr-ī*, of the nature of a codicil. **COD'IFY**, v. *-ī-fī* [L. *fāciō*, I make]: to reduce to a code or system. **COD'IFYING**, imp. **COD'IFIED**, pp. *-fīd*. **COD'IFIER**, n. *-ēr*, or **CODIST**, n. *kō'dīst*, one who forms or reduces laws to a system or code. **COD'IFICA'TION**, n. *-kā'shūn*, act of forming a code (q.v.), or systematic collection of laws. Though a code, in the wider sense, comprehends frequently the whole legislation of a country, there is a narrower sense in which the term is applied to a particular branch of legislation, such as commercial law, criminal law, marine, etc. In this latter sense, some general acts of consolidation may almost lay claim to the character of codes. All attempts at C. in the wider sense in England have failed, notwithstanding the earnest advocacy of Lord Brougham. The department in which it seems to be most hopeful, is the law-merchant, which is necessarily cosmopolitan beyond the other departments of the law: see **CODE**.

CODE: collection and arrangement of laws: the primary meaning of the Latin word was the trunk or stem of a tree; latterly, it came to signify more especially wooden tablets bound together and covered with a coating of wax, which were used for writing on. After parchment and paper were substituted for wood the name C. was still retained. Cicero applies it to a bill, but it was not till still later, in the times of the emperors, that it was used to express an authorized collection of laws and constitutions.

CODES, ROMAN.—1. *Codex Gregorianus and Hermogenianus*.—The term *codex* never was applied to the laws of the twelve tables, and the earliest collections, so called, were those of Gregorianus or Gregorius, and Hermogenianus. Of these, whether two separate collections, or two parts of one collection—a disputed point—only fragments remain. They never received the imperial authority, but were quoted as authoritative compilations in the courts, and they supplied the models on which the subsequent works of Theodosius and Justinian were executed.

2 *Codex Theodosianus*.—This compilation was executed by a commission of eight persons, appointed by Theodosius the younger 429, and afterward increased to sixteen. The work was completed and published, or rather promulgated, as law throughout the Eastern empire 438, and declared

to be a substitute for all the constitutions since the time of Constantine. In the Western empire also, having been laid before the senate, it was confirmed as law in the same year by Valentinian III. son-in-law of Theodosius. Nine years later, the new constitutions (*nouvelle constitutiones*), which had been made since the promulgation of the C. were likewise promulgated in the Western empire. The name of novels (*novellæ*) continued to be given to all the constitutions issued subsequent to the date of the Theodosian C. till the overthrow of the Western empire. The C. of Theodosius has been, in a great measure, preserved. It consists of 16 books, subdivided into titles and sections. The best edition is that of J. Gothofredus (6 vols. fol., Lugd. 1665) was re-edited by Ritter (Leip. 1736-45). This edition contains the Theodosian C. entire, except in the first five, and part of the sixth book, for the reproduction of which the Breviary or abridgment prepared by the orders of Alaric II. King of the Visigoths—which itself may be regarded as another C.—formed the only guide. Some recent discoveries of MS. and palimpsests have added considerably, not only to modern critical knowledge of the contents of this C., but have made it possible also to restore several of the genuine constitutions of the first five books. Of the 262 laws and fragments of laws, omitted in the Breviary, 62 have been thus restored (see *Jus Civile Antejustin.*, Berol. 1815).

3. *Codex Justinianus*.—In 528, the emperor Justinian appointed a commission of ten persons, one of whom was the celebrated Tribonian (q.v.), to compile a C., incorporating in it the previous codes of Gregorianus, Hermogenianus, and Theodosius, and also the constitutions (q.v.), rescripts (q.v.), and edicts (q.v.), subsequently issued. The work was performed in 14 months, and it was then declared that the new C. should supersede the older compilations. A second edition of this work, revised, and with subsequent constitutions, etc., incorporated (*Codex Repetitæ Prælectionis*), is what is now known as the C. of Justinian. It consists of 12 books, divided into titles.

CODES, GOTHIC.—The laws of the barbarians were all collected into a single C., which bore the title of *Codex Legum Barbarorum*. Of these various systems, the first was that of Alaric, King of the Visigoths, mentioned above, augmented by the legislative labors of his successors. To this C. was given the title of the Gothic law, *par excellence*, and it was the best and fullest of all the barbarian codes. The second C. comprised in the collection was that of the Burgundians; the third, the Salic law (q.v.), composed when the Franks issued from their German forests; the fourth, the law of the Frisians, which dates from the times of their conquerors, Pepin and Charles Martel. These, and all the other codes by which the tribes of the north which overthrew the Empire were governed, merged at last in the feudal system, and a mass of local customs speedily arose which introduced the greatest uncertainty into jurisprudence.

CODES, FRENCH.—Charles VII. was the first king of

France who attempted, by a series of general *ordonnances*, to introduce something like uniformity into the legislation of France; and several of his successors, in particular, Louis XI. and Henry III., entertained the idea of establishing a single C. for the whole kingdom. A C., having this object in view, was subsequently prepared by Michel de Marillac, and published 1629. It consisted of 471 articles, and is spoken of by French jurisconsults in terms of highest praise. Its reception, however, was very partial, confined indeed to the jurisdiction of the parliament of Dijon. Louis XIV., who, among his other ambitions, affected that of becoming the French Justinian, published a series of very important *ordonnances*, embracing most of the leading departments of the law. The work was executed by a commission composed of the most distinguished magistrates and advocates of the kingdom, and before the various *ordonnances* received the royal assent, the king caused them to be discussed with the principal officers of parliament. Minutes of these discussions have been preserved, and they constitute one of the most precious monuments of the history of French jurisprudence. Many important chapters were subsequently added to this C., before it assumed the form in which, as the C. of Louis XV., it represents the condition of French jurisprudence previous to the Revolution.

Such, with the addition of sundry attempts at legislation during the period of anarchy which succeeded, was the position of affairs when Napoleon assembled that brilliant band of jurisconsults—Tronchet, Portalis, Merlin, Bigot-Préameneu, Treilhard, Pensey, etc.—by whose labors, aided in no small degree by that marvellous insight into human affairs which Napoleon possessed, the modern legislation of France, and of no small portion of the rest of Europe, was developed and set in order. Such was the energy which he contrived to bring to bear on the work, that the vast edifice of the C. Napoleon, or C. Civil, was reared in a single year, the first title having been promulgated 1803, Mar. 5, and the last 1804, Mar. 30. The C. de Procédure Civile followed 1806, the C. de Commerce 1807, the C. d'Instruction Criminelle 1808, and two years afterward, the C. Pénal. The period of the restoration produced several codes of less importance—forest-laws, fishing-laws, etc. The C. Napoleon received the force of law in the countries which were successively subjugated by France; in Italy, in the kingdom of Holland, in the Hanseatic departments, in the grand duchy of Berg. In the Rhenish provinces and in Belgium, it still forms the basis of legislation.

Since 1867, but especially since 1871, great progress has been made in the codification of German law.

CODES IN THE UNITED STATES.—In practice *code* has in the United States an interpretation different from the European, the word *digest* being used in its stead; the distinction being that a code is a collection of decisions of courts, while a digest is a compilation of the laws of a state; hence there are few codes and innumerable digests.

CODEINE—CODEX VATICANUS.

With the exception of the youngest, all the states have had their laws and decisions codified, and, excepting the *Louisiana Code of Civil Procedure*, by Edward Livingston (1764–1836), the *New York Code of Procedure*, by David Dudley Field, and a *Massachusetts Code*, they take the name of digests or revised statutes. Livingston compiled a penal code also for Louisiana, but it was not accepted by the legislature, and a *Penal Law for the United States*, 1828; Bloomfield, Leaming, and Spicer, and L. Q. C. Elmer made notable compilations of the colonial and provincial laws of N. J.; John C. Spencer (1788–1855), ex-sec. of war and ex-sec. of the treasury, was appointed a commissioner to revise the statutes of New York, 1829; Frederick C. Brightly, of Philadelphia (1811–88), compiled digests of United States statutes and of United States, N. Y., and Penn. reports; while the Whartons, Francis and Thomas I., have compiled digests, reports, reported decisions and treatises on the different forms of law, that are authorities with leading practitioners.

CODEINE, n. *kō-dē'in* [Gr. *kodeia*, a poppy-head]: one of the active medicinal principles of opium.

CODEx ALEXANDRINUS: see ALEXANDRIAN CODEx.

CODEx BEZÆ, *kō dēks bē'zē*, or CODEx CANTABRIGIENSIS: uncial manuscript discovered, 1562, in the monastery of St. Irenæus at Lyons, acquired by Theodore Beza, and presented by him, 1581, to the Univ. of Cambridge. It is probably of the 6th c., and contains the four gospels in an order (Matthew, John, Luke, and Mark) found also in some old Latin MSS., with the book of Acts, all in Greek and Latin on opposite pages. There are many interpolations, probably taken from the margin of an older copy; these being eliminated, the text agrees in the main with others. Whiston translated it 1745: it was published by Dr. T. Kipling in 2 vols. folio (Cambridge, 1793) nearly in fac-simile, and again by F. H. Scrivener 1864.

CODEx EPHRAEMI, *kō dēks e-fra-ē'mī*: uncial palimpsest of parts of the Greek Bible, brought from the East by Lascaris, taken by Catharine de' Medici to Paris, and there kept in the national library. The text, which had been erased and written over with works of Ephrem Syrus, was discovered by Peter Alix abt. 1690, and some passages from it published by Küster 1710. Wetstein, sent by Bentley 1716, partly collated the MS., and used the results in his Greek Test. (1751–52). A chemical compound, applied to the leaves 1834 to bring to light the obscurities of the text, had that effect in some cases, made other parts worse than before, and discolored the whole. Tischendorf, who devoted most of 1841 to the task, was the first to decipher and copy the whole MS.; he published it in 2 vols. at Leipsic 1843–45. It is supposed to be of the 5th c., and for critical authority is ranked by Tregelles next to the Sinaitic and Vatican MSS. It had been touched by correctors of about the 6th and 9th centuries.

CODEx SINAITICUS: see SINAITIC CODEx.

CODEx VATICANUS: see VATICAN CODEx.

CODGER—COD-LIVER OIL.

CODGER, n. *kěj'ér* [Ger. *kotzen*, to spit; *kotzer*, a spitting or coughing man or woman]: *familiarly*, a term of abuse for an elderly person; an eccentric, strange old fellow; a miser.

CODICIL, **CODIFY**, **CODIFICATION**: see under **CODE**.

CODILLA, n. *kō-díl'lă* [L. *cauda*, a tail]: the coarse part of flax or hemp, called *tow*, sorted out by itself.

CODILLE, n. *kō-díl'* [Sp. *codillo*]: a term at omber, signifying that the stake is won.

CODLING, n.: see under **COD** and **CODDLE**.

COD-LIVER OIL: generally obtained from the livers of the common cod (q.v.) but likewise from allied species, as ling, dorse, coal-fish, torsk, etc. In these fish, the adipose tissue (q.v.) containing oil, is almost entirely confined to the liver, in which they agree with the shark tribe, while in other fish, as in the herring and salmon, the oil is diffused over the entire structure of the animal. C. O. is prepared largely in Britain, Norway, and Newfoundland. There are three varieties of the oil in commerce—*pale C. O.*, *pale-brown C. O.*, and *dark-brown cod-liver oil*.

In the preparation of the oil, the livers are placed in a tub with a layer of spruce boughs at the bottom, and subjected to pressure, when the light-colored or pale oil exudes, and is run off by an opening at the lower part of the tub. As the livers partially putrefy, more oil escapes, which is darker than that procured from the fresh livers, and constitutes the pale-brown oil; and the residual livers being boiled with water, part with their remaining oil, and yield the dark-brown oil. The pale oil thus approaches more nearly the condition in which the oil is present in the livers, while the other varieties are more or less impregnated with the products of the putrefaction of the livers. The purer oil has a peculiar fishy odor and taste, which is not disagreeable, although it remains for a little time, and in some cases requires a little practice to get accustomed to it. The darker varieties have more or less of a disagreeable empyreumatic odor and taste, and leave in the throat an unpleasant nauseous sensation, more difficult to overcome.

The oil consists mainly of oleic and margaric acids, in combination with glycerine, and holding in solution the constituents of the bile, acetic acid, a phosphorized oil, as also iodine and bromine. These ingredients are present most largely in the light-colored oil. C. O. is occasionally adulterated with more or less train-oil, to which a little iodine has been added. In the purer varieties of C. O., the presence of any such admixture can be at once observed from the disgusting odor, although in the darker varieties of C. O. the test of odor cannot be relied on.

As a remedy, C. O. has a great reputation as efficacious in the treatment of scrofulous and tubercular diseases, especially consumption (q.v.); it has been used extensively also in chronic rheumatism, in rickety affections, and in

CODOGNO—CODRUS.

other diseases of the bones and joints. The virtues of C. O. have been ascribed to iodine, bromine, and other specific ingredients; but, on the whole, the most probable view of its action is that it is simply a fattening agent—a fatty food—and that it acts by nourishing the system in cases attended with emaciation, just as new milk, cream, and butter, or fat bacon, sometimes act in similar cases. C. O. is often more easily digested than, from its somewhat disagreeable odor and taste, might have been expected. Children, in particular, often take it readily; and in emaciated old people, it is sometimes of great service in conjunction with remedies suited to the peculiar case. In true tubercular consumption it has for some years had great repute; but it is very far from having anything like a specific remedial action in that disease. C. O. is taken usually in doses of from a dessert-spoonful to a table-spoonful three times a day; but a pint, or even more, is said to have been consumed daily in some instances with good effect, or at least without injury.

CODOGNO, *kō-dōn'yō*: town of Lombardy, n. Italy, in a rich district between the Adda and the Po, about 15 m. s. e. of Lodi. It is well built, and has manufactures of silk and linen, and a great trade in cheese. Pop. 9,632.

CODONOSTOMA, n. plu. *kō'dō-nōs'tō-mă* [Gr. *kodon*, a bell; *stoma*, a mouth]: the aperture or mouth of the disc of a medusa, or of the bell of a medusiform gonophore.

COD-PIECE, n. *kōd'pēs*: a front part of breeches, formerly made very conspicuous, and sometimes indelicate in appearance.

CODRINGTON, *kōd'rīng-ton*, Sir **EDWARD**, G.C.B., etc.: British admiral: 1770–1851, Apr. 28; third son of Edward C. He entered the navy 1783. In 1794, he was lieut. of the *Queen Charlotte*, Lord Howe's flag-ship, in the actions of May 28, 29, and June 1. At the battle of Trafalgar, 1805, he was capt. of the *Orion*, 74. He afterward served in the Mediterranean, and in N. America, and rose to the rank of vice-admiral in 1821. 1826, Nov. 1, he was appointed commander-in-chief of the Mediterranean squadron, and in that capacity took the leading part in the battle of Navarino (q.v.), and received in reward the grand cross of the Bath, with Russian and French orders; but the battle being considered an 'untoward event,' C. was recalled. He attained the full rank of admiral of the red, 1837, and 1839 was appointed commander-in-chief at Portsmouth. He was M.P. for Devonport 1832–39.

His son, Gen. Sir **WILLIAM JOHN C.**, G.C.B., was commander-in-chief in the Crimea, 1855–6; and was promoted to the rank of general 1863.

Another son, Admiral Sir **HENRY JOHN C.**, K.C.B., took part in the destruction of St. Jean d'Acre, and became an admiral 1867.

CODRUS, *kō'drūs*: last king of Athens; son of Melanthus, and, according to Grecian legend, sacrificed his life for his country about B.C. 1068. A war raging between the Athenians and Dorians, the oracle declared that the

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victory should belong to those whose king was slain by the enemy; whereupon, C., attiring himself as a peasant, entered the Dorian camp, and, having picked a quarrel with some of the soldiers, contrived to have himself slain. His son, Medon, was made archon (q.v.) for life, on the pretense that no one was worthy to succeed such a man as king.

CODY, WILLIAM FREDERICK: formerly an American scout, b. 1846, Feb. 26; generally known as **BUFFALO BILL**, a sobriquet acquired by his feat of killing 4,280 buffaloes to provide meat for the laborers on the Kansas Pacific railroad. In 1883 he organized the Wild West Show.

CO-EDUCATION: education of the sexes together—generally used of education in higher schools and colleges: see **COLLEGE**.

COEFFICIENT, *n.* *kō'ēf-fīsh'ēnt* [*L. con*, together; *effic'iens* or *efficiēns*, efficient—from *ex*, out of; *faciō*, I do or make]: that which unites with something else to produce the same effect; in *alg.*, the known or constant number which is the factor of an unknown or variable quantity. Thus, in the expressions $4x$ (4 times x), bz (b times z), 4 and b are coefficients of x and z , b being supposed known as well as 4, and x and z unknown or variable. Strictly speaking, in a product, such as 3×5 , $4 \times x$, or $b \times z$ ($=bz$), either of the two factors is a C., since they 'together make' the product; but in practice, the meaning is restricted as above: **ADJ.** co operating; acting to the same end. **CO'EFFICI'ENCY**, *n.* *-fīsh'ēn-sī*, the state of acting together to produce the same effect. **CO'EFFI'CIENTLY**, *ad.* *-ēnt-lī*.

COEHOORN, *kō'hōrn*, or **COHORN**, *kō'horn*, **MENNO**, Baron **VAN**, called the Dutch Vauban: 1641–1704, Mar. 17; b. Lettingastate, near Leeuwarden; studied fortification and mathematics under his uncle Bernardus Fullenius, then prof. of these sciences at Franeker. Prince Henry Casimir, Stadtholder of Friesland, apprised of the youth's great abilities, appointed him, in his 16th year, capt. of a company of infantry; and in 1674 C. greatly distinguished himself at the siege of Maestricht, and in various battles. At the siege of Grave, 1674, he demonstrated that small portable mortars might be advantageously employed (see **COEHORN**); and also that the combined effect of a certain mass of projectiles is much greater than the effect produced by a successive discharge of the separate projectiles composing the mass. The application of this principle distinguishes the operations of Coehoorn. C. covered himself with honor before Kaiserswerth (June) and Bonn (1689, Oct.), and the elector of Brandenburg wanted to make him maj. gen., but he refused the promotion. He also distinguished himself in the battle of Fleurus (1690, July 1). He was now for some time in disgrace, but was soon sought again by William III. He fortified Namur, and defended his own intrenchment 'William' against Vauban, 1692; besieged that fortress 1695, and retook it; was appointed lieut. gen. and director-in-chief of the Dutch fortifications, and fortified several towns, of which Bergen-

op-Zoom may be considered his master-piece. In 1702, he annihilated the French lines near St. Donat. He died at the Hague. His principal works are *The New System of Fortification* (Leeuwarden, 1685) and *The Pentagon*.

COEHORN, n. *kō'hawrn* [after the inventor Baron Coehoorn]: in *mil.*, a small kind of mortar, generally $4\frac{1}{2}$ inches caliber; sometimes, in sieges, grouped in great numbers.

CÆLACANTHI, n. plu. *sē'lă-kăn'thī* [Gr. *koilos*, hollow; *akantha*, a spine]: an extensive group of fossil sauroid fishes.

CÆLELMINTHA, *sē-lēl-mĭn'tha* [Gr., hollow worms]: name given by Owen to one of the two orders of entozoa (q.v.), or intestinal worms, having a distinct abdominal cavity and intestinal canal, the *Vers intestinaux cavitaires* of Cuvier. Examples of this order are *Ascaris Strongylus* and *Filaria*.

CÆLEENTERATA, n. plu. *sē-lēn'tēr-ā'tă* [Gr. *koilos*, hollow; *entéron*, a bowel or gut; *entēra*, entrails]: in *zool.*, a great division of the animal kingdom, long specifically called a sub-kingdom, the sub-kingdom comprising the Hydrozoa, Actinozoa, and Ctenophora; a name used instead of the old term Radiata; this sub-kingdom includes those animals which have a large internal or 'somatic' cavity, and whose bodies consist of two foundation membranes or layers, one forming an integument, the other a lining, to the large internal cavity: see SUB-KINGDOMS, ANIMAL: POLYPI: ACTINIA: CORAL, etc.: also ZOOLOGY (Classification).

CÆLE-SYRIA, *sē'lē šĭr'ĭ-a* (Hollow Syria), now called by the natives El-Būkâ'a, 'the deep plain:' valley of Syria, extending between the ranges of the Lebanon and anti-Lebanon. Near Bar Elias it is 2,854 ft. above the sea. Its length is about 100 m., and its average breadth 10. In this valley stand the ruins of Baalbek and the village of Zahleh.

CÆLIAC, or CELIAC, a. *sē'lĭ-ăk* [Gr. *koilia*, the belly]: pertaining to the intestinal canal. CÆLIAC PASSION, a flux or diarrhea of undigested food. CÆLIAC AXIS: see AORTA.

CÆLOMETER, n. *sē-lōm'ĕ-tēr* [L. *cælum*, the sky; Gr. *metron*, a measure]: an instrument used under the sanction of the board of trade for marine examinations.

CÆLOSPERM, n. *sē'lō-spĕrm*, CÆLOSPERMÆ, n. plu. *sē'lō-spĕr'mē* [Gr. *koilos*, hollow; *koilia*, the belly; *sperma*, seed]: applied to seeds with the endosperm curved at the ends, so that the base and apex approach, as in coriander-seed.

COEN, *kôn*, JAN PIETERSZON: 1587-1630; b. Hoorn, Holland: founder of Batavia. He had a commercial training in Rome, was in India 1597-1611, went out again in command of two ships 1612, was made director-gen. of the India trade 1613, and pres. of the factory at Bantam 1617. He took and destroyed Jacatra, built Batavia on its site 1619, removed the factory thither, and made it the cap. of the Dutch E. Indies. He returned to Europe 1622, and to Batavia 1627, to resist a siege by the emperor of Java,

1629. He died of a pestilence said to have been produced by the bodies of his slain enemies.

CÆNANTHIUM, n. *sē-năn'thĩ-ũm* [Gr. *koinos*, common; *anthos*, a flower]: in *bot.*, the peculiar inflorescence of the common fig, etc., consisting of a large fleshy receptacle which contains the whole inflorescence male and female: also spelled CÆNANTHIUM.

CÆNENCHYMA, n. *sē-něn'kĩ-mă* [Gr. *koinos*, common; *eng'chuma*, an infusion, tissue]: the calcareous tissue which unites together the various corallites of a compound corallum.

CŒNOBITE [see CENOBITE], or SYNODITE: one of a company of monks who live together, in distinction from the anchorites (q.v.), or hermits, who withdraw from all society and live in a solitary fashion. The first *Cænobium*, or monastery, was founded by Pachomius, disciple of St. Antony, about A.D. 340, at Tabennæ, an island in the Nile. In a short time it reckoned 1,300 monks, and stimulated the establishment of numerous other monasteries in Egypt, Syria, and Palestine.

CŒNŒCIUM, n. *sē-nē'shĩ-ũm* [Gr. *koinos*, common; *oikos*, a house]: in *zool.*, the plant-like structure or dermal system of any polyzoon; another name for 'polyzoary' or 'polypidom.'

CÆNOSARC, n. *sē'nō-sărk* [Gr. *koinos*, common; *sarx*, flesh]: the common organized medium by which the separate polypites of compound hydrozoa are connected together.

CÆNU'RUS: see CESTOID WORMS, under CESTOID.

CO-EQUAL, a. *kō-ē'kwōl* [L. *con*, together; *æquus*, equal]: of the same rank, dignity, or power: N. one who is equal to another. COE'QUALLY, ad. -lĩ.

COERCE, v. *kō-ěrs'* [L. *cōercēre*, to keep in or restrain—from *con*, together; *arcēō*, I drive, I confine]: to restrain by force; to compel. COER'CING, imp. COERCED', pp. -*ěrst'*. COER'CER, n. -*sēr*, one who. COER'CION, n. -*ěr'shũn*, compulsion; restraint by force. COER'CIBLE, a. -*sĩ-bl*, that may or ought to be repressed. COER'CIVE, a. -*sĩv*, having power to restrain. COER'CIVELY, ad. -lĩ.—SYN. of 'coerce': to compel; bind; oblige; constrain; force; repress.

CO-ETERNAL, a. *kō'ě-ter'năl* [L. *con*, together; *æternus*, perpetual, everlasting]: equally eternal with another.

CŒUR, *kér*, JACQUES: abt. 1395–1456, Nov. 25; b. Bourges: founder of French trade with the Levant. He established a business house at Montpellier 1432, and began buying goods at Damascus. Made master of the Paris mint by Charles VII., 1436, he instituted a reform of the coinage, which had been greatly debased. He was steward of the royal expenditure 1438, ennobled 1440, and sent as a royal commissioner to preside over the parliament of Languedoc 1444. His agents in the East negotiated a treaty, 1445, between the Sultan of Egypt and the Knights of Rhodes: De Village, who had married his niece, conducted an im-

COEVAL—COEXTENSIVE.

portant mission to Egypt 1447, and established French influence in the Levant. C. himself was an ambassador to Savoy 1447, and to Pope Nicholas V. 1448. He loaned the king great sums for the conquest of Normandy, served in the campaign which ousted the English, and entered Rouen in his master's train. He had amassed the greatest fortune ever owned by a French subject; he had 300 factors, houses of business in all the chief cities, ships in all parts of the Mediterranean. A broker, banker, farmer, dealing in everything, he had monopolized the trade of France. So, at least, his enemies complained to the king, whose envy was aroused by so much wealth; to confiscate was the easiest way to repay. Agnes Sorel, mistress of Charles VII., died of fever 1449, Feb. Two years later, C. was absurdly accused of poisoning her and committing various other crimes. After a mock trial he was condemned to public penance, a fine of 100,000 crowns, loss of property, imprisonment, and ultimate exile. The sentence took effect 1453, June 5. After two more years of confinement he escaped to Provence, and thence, aided by old friends, to Rome. The pope received him cordially, and gave him command of a fleet sent to relieve Rhodes. During this expedition he died at Scio. His memory was rehabilitated by Louis XI. Accounts of him have been written in French by Bonamy, Trouvé (1840), and Pierre Clément (1858), and in English by Louisa Costello (1847).

COEVAL, a. *kō-ē'vāl* [L. *coævus*—from *con*, together; *ævum*, an age]: of the same age; contemporaneous; beginning to exist at the same time.

CO-EXIST, v. *kō'ēg-zīst'* [L. *con*, together; *existo*, I exist]: to exist at the same time with another. CO'EXIS'TENT, a. *-tēnt*, having existence at the same time with another: N. that which coexists with another. CO'EXIS'TENCE, n. *-tēns*, existence at the same time with another.

CO-EXTENSIVE, a. *kō'ēks-tēn'sīv* [L. *con*, together; *ex*, out of; *tensus*, stretched]: having the same extent.

COFFEE.

COFFEE, n. *kōf'fī* [Ar. *kahwa* or *kahwé*, coffee, but formerly one of the names of wine: F. and Sp. *café*, coffee]: well-known beverage, an infusion of the roasted albumen of the seeds of the C. tree (*Coffea Arabica*), native of Abyssinia and Arabia, but now naturalized in many of the tropical countries colonized by Europeans. There are a number of species of *Coffea*, but this one only is known to possess valuable properties; the seeds of *C. Mauritiana* prepared in the same way, are bitter and slightly emetic. The genus belongs to the nat. ord. *Cinchonaceæ*. It has a tubular 4-5-cleft corolla, and a succulent fruit containing two cells lined with a cartilaginous membrane, and each containing one seed.

In a wild state, the C. tree is a slender tree, 15-25 ft. high, with few branches; in cultivation, it is seldom allowed to become more than 6-10 ft. high, and is made to



Coffee:

a, a branchlet with leaves, flowers, and fruit; *b*, section of fruit.

assume a sort of pyramidal form, with horizontal branches almost from the ground. The leaves are evergreen, opposite, very shining, oblong, and leathery; the flowers are small, clustered in the axils of the leaves, and snow-white; the whole appearance of the tree is very pleasing; and the smell of the flowers delicious. The fruit, when ripe, is of a dark-scarlet color, and the seeds are semi-elliptic, and of a horny hardness. The seeds are commonly termed *C. beans*, but this name is not derived from a resemblance to

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beans, which they have not, but from the Arabic word *bunn*. They are sometimes incorrectly designated *C. berries*.

The *C.* tree thrives only in countries where the average temperature of the year is about 64–70° F. In Peru and Quito it is acclimatized at an elevation of 6,000 ft., where, however, frost never occurs; but as it delights in a moist atmosphere it nowhere thrives better than in tropical islands. The fruit ripens in the hot-houses of colder climates, where the *C.* tree frequently flowers. *C.* plantations are laid out in quadrangles, bordered by fruit-trees—the *C.* trees standing in rows; they are pruned to the same height, and the ground between them is carefully kept clean of weeds. Where the climate is dry abundant irrigation is necessary, but the supply of water is cut off as the fruit begins to ripen, in order to improve its quality. The tree yields its first crop in the third year; the crop from a full-grown tree may amount to a pound of *C.* beans. As the *C.* tree continues flowering for eight months its fruits are at any time of very unequal ripeness; in the W. Indies and Brazil three gatherings are therefore made annually. The beans are placed on mats or large floors specially adapted, where they are dried by the sun's rays, being meanwhile frequently turned. They are passed between rollers to remove the dried pulp of the bean and the membrane which incloses the seeds themselves, and the *C.* is afterward freed from impurities by winnowing, and conveyed in bags to the seaports. As equal care is not, bestowed upon the preparation of it in all places where it is cultivated, there are great differences in quality and price. The earlier history of the *C.* tree is not very clear. It was not known to the Greeks or Romans; but in Abyssinia and Ethiopia it has been used from time immemorial; and in Arabia it was certainly in use in the 15th c., and over the rest of the East in the 16th c. Toward the end of the 17th c. it was carried from Mocha to Batavia by Wieser, a burgomaster of Amsterdam, where it was soon extensively planted, and at last young plants were sent to the botanical garden at Amsterdam, from which the Paris garden obtained a tree. A layer of this was carried out to Martinique 1720, where it succeeded so well, that in a few years all the W. Indies could be supplied with young trees.

The following sorts are particularly distinguished from each other in commerce. *Mocha C.*, which comes from Arabia, known by its small gray beans inclining to greenish; *Java* or *E. Indian C.*, which has large yellow beans; *Jamaica C.*, with beans somewhat smaller and greenish; *Surinam C.*, which has the largest beans; *Bourbon C.*, with beans pale yellow and almost whitish.

The use of *C.* as a beverage was introduced from Arabia, in the 16th c., into Egypt and Constantinople. Leonhard Rauwolf, a German physician, was probably the first to make *C.* known in Europe, by the account of his travels printed 1573. Soon after the first introduction of *C.*, COFFEE HOUSES arose almost everywhere. The first in

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Europe was established in Constantinople 1551. In London, the first coffee-house was opened in Newman's Court, Cornhill, 1652, by a Greek named Pasquet. This Greek was the servant of an English merchant named Edwards, who brought some C. with him from Smyrna, and whose house, when the fact became known, was so thronged with friends and visitors to taste the new beverage, that to relieve himself from annoyance, Edwards established his servant in a coffee-house. The first coffee-house in France was opened at Marseille 1671, and in 1672 there was one opened in Paris, which soon had several competitors.

In Arabia and the east, C. is not usually prepared as a beverage in the same way as in Europe, except by Europeans. A decoction of the unroasted seeds is there generally drunk; and for the 'Sultan's coffee,' the pericarp, with the dried pulp roasted, is employed.

The great demand for C. has led to the employment of a number of cheaper substitutes, of which *Chicory* (q.v.) root is best known. Of others, dandelion root, carrot, and the seeds of the common yellow iris may be mentioned. They are prepared by roasting like coffee. The seeds of *Astragalus Bæticus* (see ASTRAGALUS), are known on the continent of Europe as *Swedish C.*, and are said to be the best substitute for C. yet discovered. But all these substitutes lack the most important constituent of true C., *caffeine*; and are therefore very different from it in their qualities. C. is subject to great adulteration through the use of most of the articles specified as substitutes. The chief substance of mixture, however, is chicory, the use of which for this purpose was legalized in Britain by a treasury minute 1840. This adulteration was prohibited by a treasury minute 1852; but it being found impossible to make the prohibition effectual, a minute was passed in the succeeding year, permitting the mixture and sale of C. and chicory, on condition that the parcels containing it were labelled in conspicuous letters *Mixture of Coffee and Chicory*.

The leaves of the C. tree are used in the w. part of Sumatra instead of the seeds. They are prepared by quick drying in a manner similar to that in which tea-leaves are prepared; and in this state contain even a larger proportion of *caffeine* than the C. beans of our shops. It seems not improbable that the use of the C. leaf may yet extend very much.

C. owes its exhilarating and refreshing properties to the presence of three substances: 1. *Caffeine* (q.v.), which occurs in the roasted bean to the extent of $\frac{3}{4}$ to 1 per cent.; 2. A *Volatile oil*, not present in the raw bean, but developed during the process of roasting to the extent of only one part in about 50,000 of the roasted C.; and 3. Astringent acids, resembling tannic acid, but called *caffeo-tannic* and *caffaic* acids. The average composition of unroasted C. is as follows:

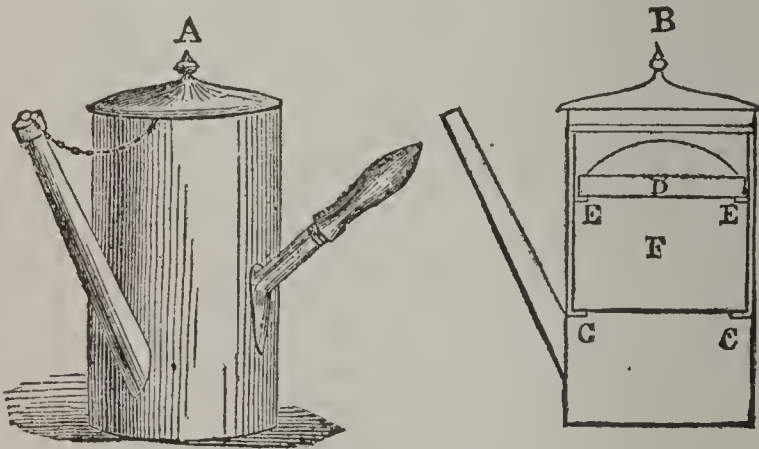
Caffeine	0·8
Legumine (vegetable caseine), (q.v.).....	13·0
Gum and sugar.....	15·5
Caffeo-tannic and Caffaic acids	5·0

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fat and volatile oil.....	13·0
Woody fibre.....	34·0
Ash	6·7
Water..	12·0
	<hr/> 100·0

When the beans are roasted till they assume a reddish-brown color, they lose 15 per cent. by weight, and gain 30 per cent. in bulk; when further roasted till they become chestnut-brown, they have lost 20 per cent. by weight, and increased 50 per cent. in bulk; while if the roasting be continued till the beans become dark-brown, they lose 25 per cent. in weight, and acquire 50 per cent. in bulk. The beans should never be darker than a light-brown color, which is quite sufficient to bring out the excellent aroma and other qualities of the C.; and when the roasting is carried further, more or less charring is the result, and a disagreeable burned flavor is produced, which tends to overcome the natural pleasant aroma.

C. does not retard the action of the bowels, as strong infusions of tea tend to do, partly because there is less of the astringent principle, also because of the presence of the



Percolating Coffee-pot:

A is the coffee-pot with the nozzle fixed; B. is a section of the same with the percolator, F. inserted, which easily slips into the coffee-pot, and rests on plugs at C, C; D. is a small upper percolator with a curved handle, which fits into the top of F, also resting on plugs, E, E. When coffee is made in this pot, the percolator, F. is placed in its situation within the pot; all the openings in the percolator are covered gently with coffee; the small upper percolator, D. is put in its place, and boiling-water is poured through it on the coffee, in such quantity as may be wished. The cover and nozzle are immediately fitted on the pot, which is placed on the fire until steam appears at the spout and cover, when it is instantly withdrawn.

aromatic oil which tends to move the bowels. The important offices which C. fulfils are, to allay the sensation of hunger; to produce an exhilarating and refreshing effect; and, most important of all, to diminish the amount of wear and tear, or waste of the animal frame, which proceeds more or less at every moment: see NUTRITION. The grounds of C. are very nutritious, from containing so much legumine; and some of the eastern nations take advantage of this, and use the grounds as well as the infusion. In other respects C. has similar properties to tea (q.v.).

COFFEE.

An endless variety of apparatus have been contrived—some of them of great complexity—for preparing C. for the table. The chief object aimed at is to obtain the liquor free from all sediment. One of the simplest and cheapest of these contrivances is the percolating C.-pot, represented in the figure. The easiest way of making C.—requiring no special apparatus, and as satisfactory in the result perhaps as any—is to put two ounces of (fresh-roasted and fresh-ground) C. into a small saucepan or common C.-pot; pour over it a pint of boiling water, and allow it to stand, closely covered up, by the side of the fire (but *not* to boil) for five minutes. The liquor may then be simply poured off the grounds, or it may be strained through a cloth, and then returned to the saucepan or C.-pot (previously rinsed out), and warmed again. Soyer recommends, that before the boiling water is poured in, the saucepan should be set dry on the fire, and the powder stirred till it is quite hot, but not in the least burned. In France, a pint of boiling milk is added to a pint of coffee. The chief effect of adding chicory to C. is to deepen the color.

ESSENCE OF COFFEE is a highly concentrated infusion, mixed to the consistence of treacle with extract of chickory and burned sugar, and kept in well-corked bottles. By pouring boiling water upon a teaspoonful of the essence, a cup of tolerable C. may be prepared in a moment.

The trade in C. is of great importance. The following statement is given in *M'Culloch's Commercial Dictionary* as an estimate of the comparative exports of C. from the principal places where it is produced, and of the annual consumption in those countries into which it is imported:

EXPORTS.

	Tons.
Mocha, Hodeida, and other Arabian ports.....	8,000
Java.....	55,000
Sumatra and other parts of foreign India.....	8,000
Brazil and the Spanish main.....	160,000
Hayti ...	16,000
Cuba and Porto Rico	7,000
British West India colonies.....	2,000
India and Ceylon	38,000
Dutch West Indies... ..	2,000
French West Indies and the Isle de Bourbon.....	2,500
	298,500

CONSUMPTION.

	Tons.
Great Britain	16,000
Netherlands and Holland	40,000
Germany, Russia, and countries round the Baltic....	60,000
France, Spain, Italy, Turkey, in Europe, the Levant, } etc.	55,000
The United States	90,000
Canada, Australia, etc.....	30,000
	291,000

In 1902 coffee was imported to the United States, by pounds, from the United Kingdom, 1,778,461; France, 134,884; Germany, 396,635; the Netherlands, 1,828,935; the rest of Europe, 34,293; Central America, 45,512,114; Mexico, 30,719,800; West Indies, 20,429,314; Brazil, 764,658,963; the rest of South America, 63,824,056; East Indies, 20,814,403; the rest of Asia and Oceania,

COFFEE BUG—COFFER.

5,003,563; Africa, 9,650; other countries, 138,848. The total importation was 955,283,919 pounds, valued at \$64,157,664.

COFFEE BUG (*Lecanium coffeæ*): insect of the coccus (q.v.) family, which lives on the coffee-tree, and is often extremely destructive to coffee-plantations. It has of late years devastated some in Ceylon. To check its ravages, the experiment was tried of introducing into the plantations the red ant (*Formica smaragdina*), abundant in many of the gardens and jungles of the island, which feeds greedily on the C. B.; but the fierce assaults of the ants on the naked skins of the Malabar coolies, made them threaten to leave the estates.

COFFEE-HOUSE: see CAFÉ.

COFFEE-TREE, KENTUCKY: see GYMNOCLADUS.

COFFER, n. *köf fër* [F. *coffre*; It. *cofano*, a chest: AS. *cof*, a receptacle (see COFFIN)]: a chest or trunk; chest sometimes of iron, usually of wood, for containing money; deep panel in a ceiling, or a square depression between the modillions of a cornice, afterward filled up with some ornament; hollow lodgment or trench across a dry moat: see CAPONIERE: V. to treasure up. **COFFERING**, imp. **COFFERED**, pp. *fërd*. **COFFER-WORK**, rubble-work faced with stone. **COFFER-DAM**, water-tight structure used in engineering for excluding the water from the foundations of bridges, quay-walls, etc., so as to allow of their being built dry. Cofferdams are generally formed of timber piles driven close together (called sheeting) in two or more rows, according to the depth of water and the nature of the bottom; the space between the rows, which may vary from four to ten ft., being spooned out, down to the solid and impervious bottom, and filled up with clay puddle. Sometimes they are made of only one row of piles of the full height, calked above low-water, with a low or dwarf row outside to confine the puddle up to that level, or, where there is no wave or current, with a mere bank of clay thrown against the outside; and occasionally the upper work is formed of horizontal planking, fixed on open main piles, and calked in the joints. When the bottom is rock, so as to prevent piles being driven, and is not much below low-water, coffer-dams are occasionally formed of two stone-walls, with a space between filled with clay.

The coffer-dams above spoken of all are called high-water dams, and exclude the water at all states of the tide. Where there are tides, they require to be provided with sluices, to allow the water, when first to be excluded, to flow out during the ebb—the sluices or gates being shut against it during the flood. The remainder of the water, and all leakages, must be drawn out by pumps, worked usually by a steam-engine. For moderately shallow foundations, especially where there is great rise and fall of tide, tidal-dams are often used. These are sometimes made of sheeting piles, but are often boxes or caissons formed of planking or of iron, weighted and sunk into the ground by digging inside in the same way that wells are sunk. These

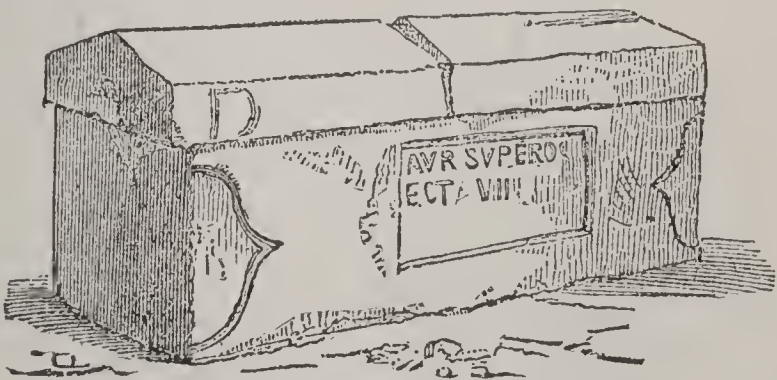
COFFIN.

dams can only be used for about a couple of hours at low-water, and require to be pumped out every tide. All coffer-dams require to be strongly shored within, to prevent their being forced inward by the pressure of the external water; and the rows of piles require to be strongly bolted together, to overcome the pressure of the clay puddle, which otherwise would burst them.

COFFIN, *n.* *kŏf'fĭn* [OF. *cofin*; It. *cofano*, a chest, a case: Gr. *kophĭnos*; L. *cophĭnus*, a basket—*lit.*, a hollow cover or basket]: the chest or box in which a dead human body is inclosed previous to burial; the conical paper-bag used by grocers; the hollow part of a horse's hoof; the wooden frame surrounding the imposing-stone of printers; in *OE.*, a raised crust like the lid of a basket: *V.* to inclose in a coffin. COF'FINING, *imp.* COF'FINED, *pp.* *-fĭnd.* COF'FINLESS, *a.* without a coffin. COFFIN BONE, the last bone in a horse's leg within the hoof. NAIL IN ONE'S COFFIN, any thing or act which tends to shorten one's life.

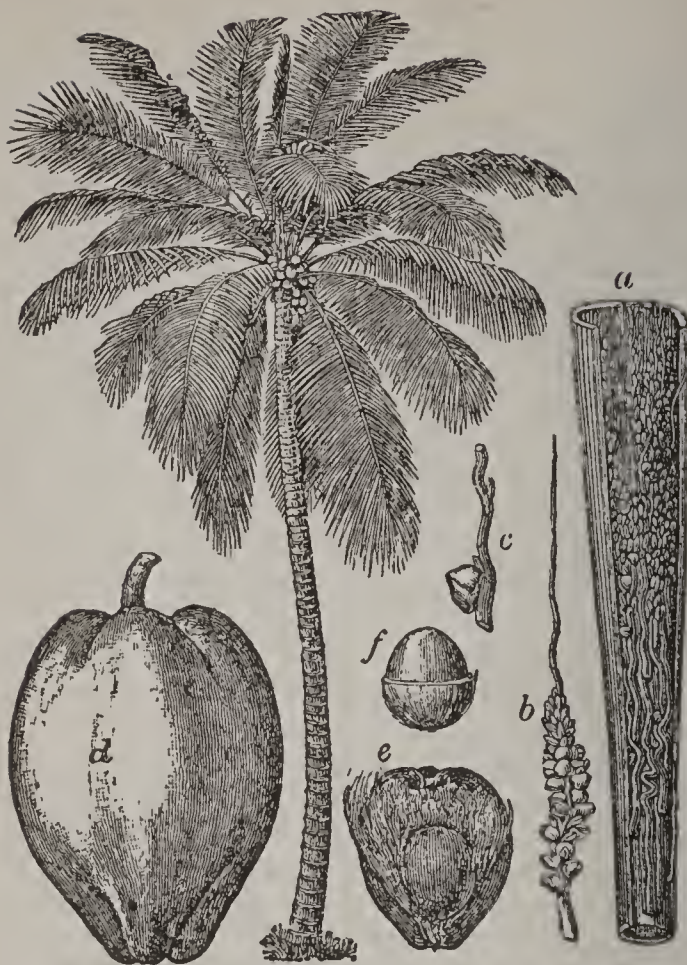
COF'FIN: ordinarily a chest or box in which dead human bodies are buried or deposited in vaults; but the term is sometimes applied also to a mold of paste for a pie, and in printing, to the wooden frame which incloses the stone on which the form is imposed. In farriery, it signifies the hollow part of a horse's hoof. What follows relates to the first of these significations.

It has been keenly disputed among scholars, whether it was more usual with the Greeks to bury their dead or to burn them (see BURIAL); but both customs unquestionably prevailed, and coffins, in the modern sense, were consequently known in Greece. They were called by various names (*soroi*, *pŭeloi*, etc.) and composed of various materials, the most common being baked clay, or earthenware. Their forms, also varied, sometimes resembling those now in use, sometimes consisting of a narrow, triangular box, the undermost side, of course, being considerably broader than the others. In Rome, the ancient practice was to bury the

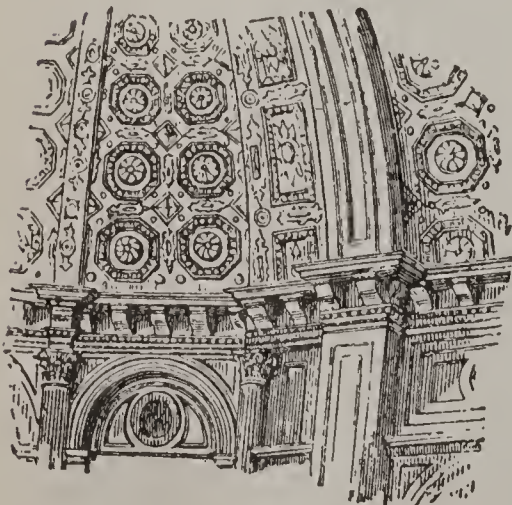


Roman Stone-coffin, found at York.

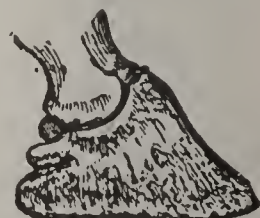
dead, not to burn them, though under the empire, and previous to the recognition of Christianity, burning became almost universal. The C. in Rome was called *arca* or *loculus*, and was frequently of stone, sometimes of a peculiar kind of stone brought from Assos, in Troas, said to



Cocoa-nut Palm (*Cocos nucifera*): *a*, Portion of young spathe, with inflorescence; *b*, Branch of Spadix; *c*, Smaller portion enlarged, showing a female flower below and male flower above; *d*, Cocoa-nut; *e*, Husk cut open, showing hard endocarp, at *f* opened to show the single seed.



Coffered Ceiling.—From the Cathedral of Como.

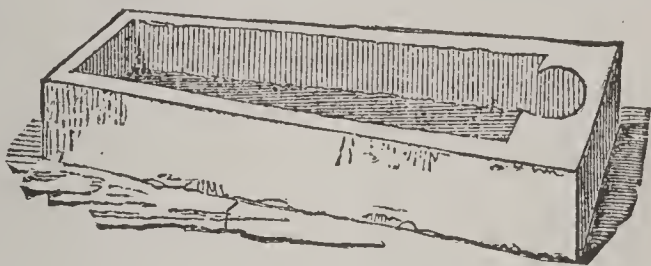


Coffin Bone of a Horse.

COFFIN—COG.

consume all the body, except the teeth, in forty days, and thence called sarcophagus, an eater of flesh: see SARCOFAGUS. Many Roman stone-coffins have been found in Britain. The simplest of all coffins was that used by the British Celts and other rude nations, consisting of unhewn stones set on their edges, so as to cover the sides and ends of the grave, one or more flat stones being then laid over the body to form a lid. To these succeeded stone-coffins, commonly used for persons of the higher classes in Saxon times, and through the whole of the middle ages.

From Bede, however, we learn that the Saxons occasionally employed wood; and the common people, both then and in the subsequent Norman and English eras,



Stone-coffin, Temple Church, London.

were simply wrapped in cloth, and so put into the ground. The same custom seems to have been followed with monks down to a comparatively recent period. Stone-coffins were generally of a single block, commonly tapering from the upper end. In the hollow for the reception of the body, there was generally a part peculiarly fitted for the head, and a hole in the bottom to allow of the juices from the decaying body to escape. These coffins were not usually buried deeply in the earth, and were frequently placed so near the surface that the lids were visible, which, within a church, often formed part of the pavement. Sometimes they were even above ground altogether, and thus became the originals of altar tombs. These lids were often covered with elaborate sculpture, representing crosses and other ornaments. Leaden coffins were used occasionally in the middle ages, as those recently brought to light in the Temple Church in London testify; but the slight wooden cases now in common use are probably of comparatively recent origin. See Strutt's *Manners and Customs*, and Gough's *Sepulchral Monuments*.

COFFIN, *kof'in*, Sir ISAAC: 1759, May 16—1839, July 23; b. Boston: British admiral. The son of a loyalist collector of customs, he became a midshipman 1773, lieut. 1778, and commander 1781, serving on the American coast during the war. He was made capt. 1790, rear adm. and baronet 1804, vice-adm. 1808, adm. of the blue 1814, and of the white 1830. He represented Ilchester in parliament 1818–26. Visiting. 1826, at Nantucket, whence his family came, he made provision for a school there. He died at Cheltenham.

COG, n. *kög* [Ir. and Gael. *gogach*, nodding, reeling: W. *cocos*, cogs of a wheel: Sw. *kugge*, a prominence in an in-

COG—COGNAC.

dented wheel: It. *cocca*, a notch]: that which causes to nod or reel; the tooth on the rim of a wheel: V. to furnish with cogs. COG'GING, imp. COGGED, pp. *kõgd*. COG-WHEEL, a wheel with teeth on the rim.

COG, n. *kõg* [W. *cwch*, a kind of boat: Scot. *quaich*; Gael. *cuach*, a drinking-cup]: in Scot., a drinking-cup of horn or wood; a wooden vessel of a circular form for containing milk, broth, etc.; a little boat. COGGIE, n. *kõg'gě*, a little cup or bowl of wood or horn.

COG, v. *kõg* [Dut. *kokelen*, to juggle: It. *coccare*; Sp. *coçar*, to mock, to cajole: Gael. *caog*, to wink, to connive]: in OE., to deceive by rapid sleight of hand; to obtain by flattery or wheeling; to wheedle; to cheat: N. a piece of cheating; deceit; a trick. COGGER, n. *kõg'gér*, a swindler; a cheat. To COG DICE, to load them so that they shall fall in a particular direction.

COGENT, a. *kõ'jěnt* [L. *cogens*, or *cogen'tem*, driving together, compelling—from *con*, together; *ago*, I drive]: urgent; pressing on the mind; not easily resisted; convincing. CO'GENTLY, ad. *-lĩ*. CO'GENCY, n. *-jěn'sĩ*, force or pressure on the mind; urgency.—SYN. of 'cogent': forcible; powerful; convincing; urgent; irresistible; resistanceless; conclusive; strong.

COGGESHALL, *kõg'gěs-hawl* or *kõg'shal*: town in the n.e. of Essex, on the left bank of the Blackwater, 44 m. n.e. of London. It lies partly on low ground, near the river, and partly on some gentle ascents rising from it. There is an endowed grammar-school, founded by Sir Robert Hitcham. The church is one of the finest in Essex, and has been recently restored at great cost. It has manufactures of silk, velvet, and isinglass. It is supposed to have been the Roman *Canonium*, and the remains of a Roman villa have been found. It has the ruins of a Cistercian abbey, founded by King Stephen 1142. Pop. 3,830.

COGITATE, v. *kõj'ĩ-tăt* [L. *cogitātus*, thought, mused—from *con*, *agĩto*, I put in motion: It. *cogitare*]: to put in motion or turn over in one's mind; to think; to meditate. COG'ITATING, imp. COG'ITATED, pp. COG'ITABLE, a. *-tă-bl*, capable of being conceived, as a thought. COG'ITA'TION, n. *-tă'shũn*, act of thinking. COG'ITATIVE, a. *-tĩv*, given to musing or meditating.

COGNAC, n. *kõn'yăk* [after a town in France, where made]: the best kind of French brandy—sometimes, but incorrectly, spelled COGN'IAC.

COGNAC, *kõn-yăk'*: town of France, dept. of Charente, with a pleasant situation on an old castle-crowned hill overlooking the river Charente. C. is celebrated as the place where the best brandy in France is manufactured, to which it gives its name. Not half the quantity of so-called *Cognac* brandy, however, is manufactured here. The cultivation of the vine and distillation of brandy are the chief industry of the inhabitants of the district. Francis I. was born here. Pop. (1881) 13,317; (1896) 20,228.

COGNATE—COGNOSCENTI.

COGNATE, a. *kǒg'nāt* [L. *cognātus*, connected by birth—from *con*, together; *nātus*, born: It. *cognato*: F. *cognat*]: related or allied by blood; proceeding from the same stock or family; having relation to; allied: N. a male relation through the mother. **COGNA'TION**, n. *-nā'shūn*, descent from the same origin; relationship between males and females descended from same father. **AGNATION** refers to males only: see **AGNATE**.

COGNIARD, *kon-ye-ār'*, **THÉODORE**: 1806, Apr. 30—1872, May 25. He and his brother, Hippolyte, who retired 1869, wrote numerous vaudevilles, etc., among the most successful of which was *La biche aux bois*. He was director of the Variétés Theatre, and initiated opera bouffe, producing Offenbach's *Belle-Hélène*, *Barbe-bleue*, *Grande Duchesse*, and *Périchole*. He died in Paris.

COGNITION, n. *kǒg-nǐsh'ūn* [F. *cognition*—from L. *cognitīōnem*, knowledge—from *con*, together; *nosco*, I know]: It. *cognizione*]: knowledge from experience or inspection; perception.

COGNITION and **SASINE**, *sā'zīn*, in Scotland: a form of entering an heir in burgage property: see **CONVEYANCING**.

COGNIZANCE, n. *kǒg'nǐ-zāns* or *kǒn'nǐ-zāns* [OF. *cognoissance*, knowledge; *connoissant*, knowing—from L. *cognoscĕrĕ*, to know—from *con*, *gnosĕrĕ*, to know]: knowledge by recollection; judicial notice or knowledge; legal acknowledgment or confession; jurisdiction or right to try; in *heraldry*, a badge (q.v.), or crest (q.v.), or other heraldic device by which a person may be known; perception; observation; knowledge. **COGNIZANT**, a. *kǒg'nǐ-zānt*, or *kǒn-*, having knowledge of. **COGNIZE**, v. *kǒg-nīz'*, to take notice of a thing. **COGNIZING**, imp. **COGNIZED**, pp. *kǒg-nīzd'*. **COGNIZABLE**, a. *kǒg'nǐ-zā-bl*, or *kǒn'-*, that falls or may fall under notice or observation; that may be heard, tried, and determined, as by a judge. **COGNIZABLY**, ad. *-blī*. **COGNIZEE**, n. *kǒg'nǐ-zē'*, or *kǒn-*, in *law*, one to whom a fine of land is acknowledged. **COGNIZOR**, n. *kǒg'nǐ-zōr'*, or *kǒn-*, one who acknowledges the right of the cognizee in a fine; the defendant.

COGNOMEN, n. *kǒg-nō'mĕn* [L. *cognōmen*, a surname—from *con*, together; *nōmen*, a name]: family name, or surname, the last of the three names usual among Romans of social position: it indicated his *gens* or family; while the first name was his *præ-nomen*, and the second his *nomen*. **COGNOM'INAL**, a. *-nōm'ī-nāl*, pertaining to the surname.

COGNOSCE, v. *kǒg-nōs'* [L. *cognoscĕrĕ*, to examine, to investigate—from *con*, together; *noscĕrĕ*, to know: It. *cognoscere*; OF. *cognoissance*, knowledge]: in *Scotch law*, to inquire into a matter; to investigate into the facts of a case. **COGNOS'CING**, imp. **COGNOSCED'**, pp. *-nōst'*. **COGNOS'CIBLE**, a. *-sī-bl*, capable of being known or made the object of knowledge. **COGNOS'CIBILITY**, n. *-bīl'ī-tī*, quality of being cognoscible.

COGNOSCENTI, n. plu. *kǒg'nōs-sĕn'tī* [It.]: persons

COGNOVIT—COHEIR.

possessing or professing a critical knowledge of works of art, somewhat beyond that of amateurs.

COGNOVIT, n. *kōg-nō'vīt* [L. *cognōvit*, he has acknowledged]: in *law*, acknowledgment, usually in writing, of the plaintiff's claim by the defendant, authorizing thereby judgment and execution against himself. It usually proceeds on the condition that defendant shall be allowed a certain time for the payment of the debt or damages and costs.

COGSWELL, *kogz'wēl*, JOSEPH GREEN, LL.D.: 1786. Sep. 27—1871, Nov. 26; b. Ipswich, Mass.: bibliographer. He graduated at Harvard 1806, made a voyage to India, practiced law a few years at Belfast, Me., was tutor at Harvard 1813-15, and spent four years, 1816-20, in study at Göttingen, and elsewhere with Ticknor and Everett. Returning, he was prof. of geology and mineralogy and librarian at Harvard 1820-23. With George Bancroft, he established the Round Hill School at Northampton, Mass., 1823, and conducted it till 1836. After teaching a short time at Raleigh, N. C., he edited the *New York Review* 1838-42. Appointed sec. of legation to Spain 1842 at the request of his friend Irving, he was detained by J. J. Astor, and lived for some years with him, determining plans and collections for the great library: with Halleck, Irving, and others, he was a trustee of its fund, and its supt. 1848-60. In its interest he made three visits to Europe to purchase books. His own bibliographical collection was presented to it, as a cabinet of 5,000 minerals had previously been to Harvard, and 4,000 dried plants of Europe to the botanic garden at Cambridge. He removed to Cambridge 1862, and died there. His publications were confined to the catalogue of the Astor Library, 8 vols., and contributions to *Blackwood's*, the *N. American Review*, etc. A memorial volume by Anna E. Ticknor was privately printed in Boston 1874.

COHABIT, v. *kō-hāb'īt* [L. *cohabitāre*, to dwell together—from *con*, together; *habito*, I dwell]: to live together at bed and board as husband and wife, usually applied to a man and woman without marriage. **COHAB'ITING**, imp.: N. the act of dwelling together as man and wife. **COHAB'ITED**, pp. **COHAB'ITA'TION**, n. *-tā'shūn*, the act of living together as man and wife; held under Scotch law as sufficient proof of a marriage as having been constituted by the mutual consent of the two parties.

COHASSET, *kō-hās'sēt*: town of Norfolk co., Mass., detached from the rest of the co., and bounded n. and e. by Massachusetts Bay, and s. and w. by Plymouth co. It has a rocky coast, and is traversed by the South Shore railroad; the village of C., near its e. end, is 21 m. s.e. from Boston. Minot's Ledge lighthouse stands in lat. 42° 16' n., long. 70° 45' w. The chief industries of C. are mackerel-fishing and keeping summer boarders. Pop. (1870) 2,130; (1880) 2,182; (1890) 2,448; (1900) 2,759.

COHEIR, n. *kō'ār* [L. *con*, together; OF. *hoir*; L. *hæres*,

COHEN—COHESION.

an heir]: one who inherits with another, or with others: see HEIR: SUCCESSION. The fem. is CO-HEIRESS.

COHEN, n. *kō'hēn*, COHANIM, n. plu. *kō'hăn-îm* [Heb.]: among the *Jews*, primarily one who ministers as a priest; a minister of God; a minister of the king.

COHERE, v. *kō-hēr'* [L. *cohærērē*, to be connected—from *con*, together; *hærēō*, I stick or cleave; *hæsus*, stuck]: to stick together; to be well connected; to depend on; to agree or suit. COHE'RING, imp. COHERED', pp. *-hērd'*. COHE'RENT, a. *-hēr'ēnt*, sticking together; related in some form or order; consistent; having a due agreement of parts. COHE'RENTLY, ad. *-lĭ*. COHE'RENCE, n. *-rēns*, or COHE'RENCY, n. *-rēn-sĭ*, union of parts of the same body; the uniting of two bodies by attraction; consistency. COHE'SION, n. *-hēr'zhŭn* [F. *cohésion*—from L. *cohæsĭōnem*]: the act of sticking together; that power of attraction which unites the particles of matter and preserves the forms of bodies. COHE'SIVE, a. *-sĭv*, that has the power of sticking. COHE'SIVELY, ad. *-lĭ*. COHE'SIVENESS, n. the quality of being cohesive or sticking together.—SYN. of 'cohere': to coalesce; amalgamate; unite; join; cleave; adhere; stick; suit; fit; agree.

COHE'SION [see COHERE]: species of attraction (q.v.) by which the particles of matter are held together so as to form bodies (see ADHESION); and its measure is the resistance which bodies offer to any mechanical force tending to separate their parts. In gaseous bodies, C. is altogether lacking; their atoms even repel one another. In liquids, notwithstanding, the ease with which the particles slide on one another, the operation of C. is distinctly seen in the formation of drops. C. is strongest in solids; and degrees of C., in this case, are much the same thing as degrees of solidity. It is the force of C. that constitutes the strength of materials (q.v.). After the particles of a body have been completely separated, it is found that through C. they will reunite, if pressed sufficiently close together. Two clean, smooth, freshly-cut pieces of lead placed together, will cohere so as to require considerable force to separate them; and it has not unfrequently happened in plate-glass manufactories, that polished plates of glass have cohered so completely that they have been cut and worked as a single piece.

If the particles of matter had no property in relation to one another, except their mutual impenetrability, the universe, it has been said, would be like a mass of sand, without variety of state or form. As it exists, however, it demonstrates the cross-action of several universal properties of matter. Among those which most effect its state and form, are heat and cohesion. It may be said that bodies assume the solid, liquid, or aëriform states, according to the proportion that the C. of their particles bears to those forces which, like heat, tend to separate them: see HEAT. Upon modifications of the cohesive force and its relations to other molecular forces, seem to depend such properties as elasticity, brittleness, ductility, etc.

COHESION-FIGURES.

COHESION-FIGURES: remarkable class of figures produced in liquids by the action of their natural cohesive attraction for the surfaces of other liquids or solids on which they are deposited, or by induced cohesive attraction effected by means of electricity. They may be described under four heads: (1) Surface-cohesion Figures of Tomlinson; (2) Submersion-figures of Tomlinson; (3) Breath-cohesion Figures of Strethill Wright; (4) Electric-cohesion Figures of Strethill Wright.

1. *Surface-cohesion Figures of Tomlinson.*—This class of figures was submitted to the Chemical Section of the British Assoc. by Charles Tomlinson of King's College, London, 1861. He showed that a drop of an 'independent liquid,' such as an oil, alcohol, or ether, when gently placed upon chemically-clean water, spreads itself out into a definite figure as it enters into solution or diffuses itself over the surface. He stated that each figure is characteristic of the fluid employed, and that any change in the chemical or

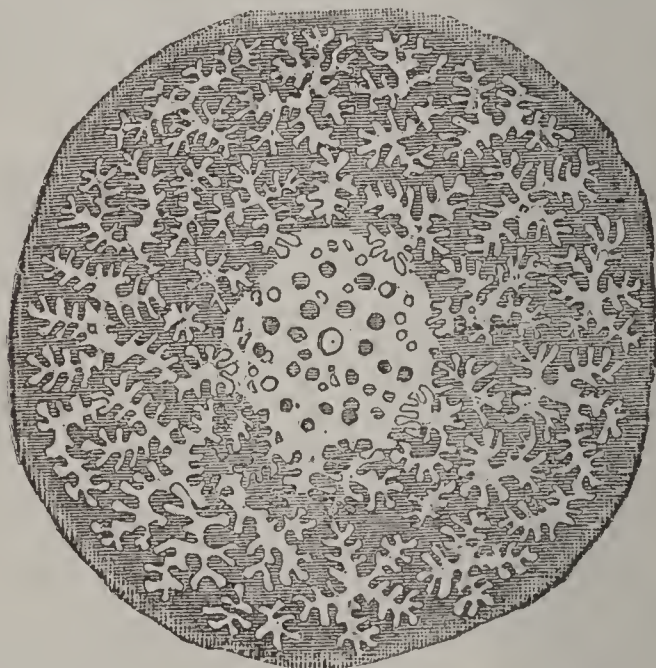


Fig. 1.

molecular state of the fluid is attended with a corresponding change in its 'cohesion-figure.' Hence he recommended that these figures should be applied to the qualitative analysis of various liquids whose ordinary methods of testing were inoperative or inadequate. *Cohesion analysis*, performed as he directs, has been applied with signal success in the verification of oils and balsams, and as a ready means of indicating the changes which take place in those bodies by age or oxidation. The cohesion figures of Tomlinson, from their great beauty and variety, combined with the exquisite harmony of coloring in many of them, have been used, like those of the kaleidoscope of Brewster, to suggest forms for the pattern-designer.

In the production of cohesion-figures, water was the receiving surface generally employed by their discoverer; but in certain cases, he employed other fluids, such as mer-

cury, acetic acid, cocoanut oil, and castor oil in the cold state; and spermaceti, white wax, lard, and sulphur in a state of fusion. On each of these substances, the liquid to be tested formed a different and characteristic figure, and hence additional means of comparison and verification were afforded. Fig. 1 shows the surface-cohesion figure of oil of lavender on water.

2. *Submersion-figures of Tomlinson.*—In the *Philosophical Magazine*, 1864, June, this author brought forward a new series of cohesion-figures of liquids, in which the drop, being of great specific gravity, instead of forming a figure on the surface, sank beneath it, and formed a figure as it slowly made its way to the bottom of the vessel. In order to exhibit these phenomena, he employed a column of liquid in a cylindrical vessel. He states that a solution of cochineal dropped into water formed a figure typi-

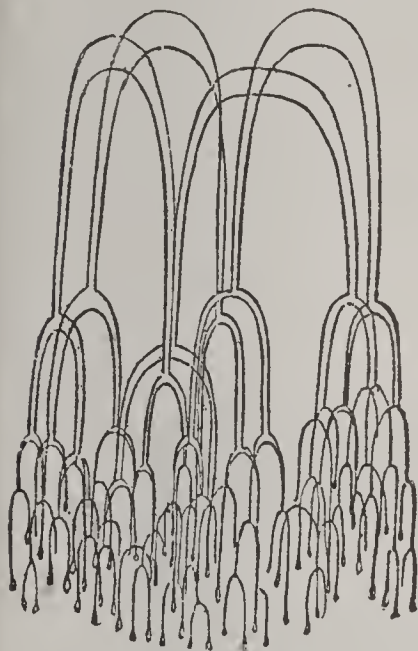


Fig. 2.

cal of a large class of these figures. A drop laid on the surface sank down, opened into a ring, which became depressed at two opposite points; from these points, lines of fluid descended, which terminated in secondary rings; the secondary rings, in like manner, dropped down into lines carrying tertiary rings, and so on, until the lower part of the vessel became crowded with a complicated system of drooping rings and lines. Oil of lavender in a column of alcohol, fusil oil in paraffine oil, benzole, in ether, etc., gave various and distinctive figures. He found that similar figures were obtained by the use of oils dropped into columns of hot spermaceti, lard, wax, etc.; and that these figures underwent considerable variation under the influence of change of temperature. Fig. 2

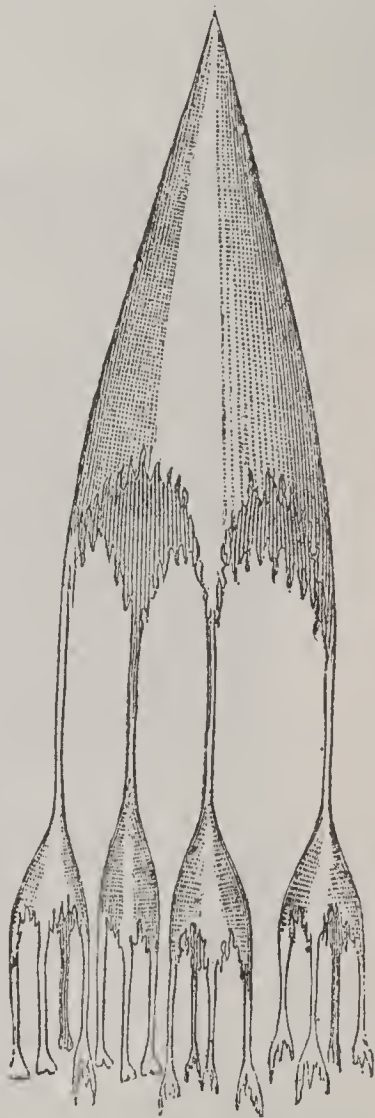


Fig. 3.

shows the submersion figure of oil of lavender in alcohol; fig. 3, that of fusel oil in paraffine oil. Each of these figures, whether surface-figures or submersion-figures, is characteristic of the fluid which forms it; and Tomlinson considers, with regard to the *surface-figure*, that it is a function of the cohesive force and diffusibility of the liquid, and the adhesion of the surface on which it is deposited; he considered also that it might be a function of the solubility and the diffusibility of the fluid in question, or of the solubility, the density, and the molecular attraction; while with regard to the *submersion-figure*, he thought each figure to be a function of the solubility, the density, and the molecular attraction.

3. *Breath-cohesion Figures of Strethill Wright*, discovered by Dr. Strethill Wright, of Edinburgh, and communicated to the Royal Scottish Soc of Arts, 1864, Dec. 12. This author, who had long been engaged in observing phenomena connected with the modification of cohesive attraction produced between solids and fluids by heat and electricity, was induced to take up the subject afresh by the publications of Tomlinson, and one of the results was the production of his so-called 'breath-cohesion figures.' He employed as the recipient surface

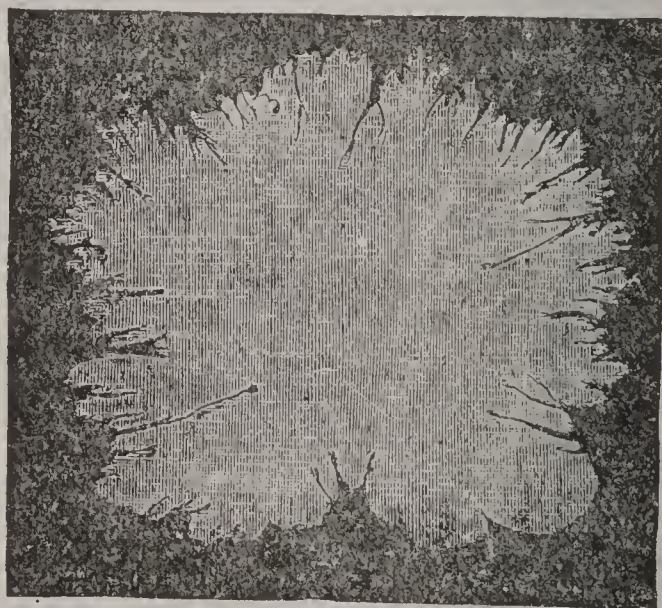


Fig. 4.

a freshly-split, and therefore chemically-clean, surface of mica; on this he placed a single drop of the fluid to be experimented on. He then breathed upon the surface, and instantly the drop flashed out into a figure characteristic of the fluid of which it was composed. By this means, a variety of substances, such as vegetable extracts, tinctures, and essential oils, and animal fluids, such as serum, vaccine lymph, bile, mucus, and urine in its various pathological conditions, could be examined. By dusting the figures with hair-powder or lycopodium, he was also enabled to render them permanent, and to exhibit them in his lectures, expanded to a diameter of 14 feet by the oxyhydrogen microscope. Fig. 4 shows the cohesion-figure of vaccine

COHESION-FIGURES.

lymph; fig. 5, that of urine containing a small proportion of

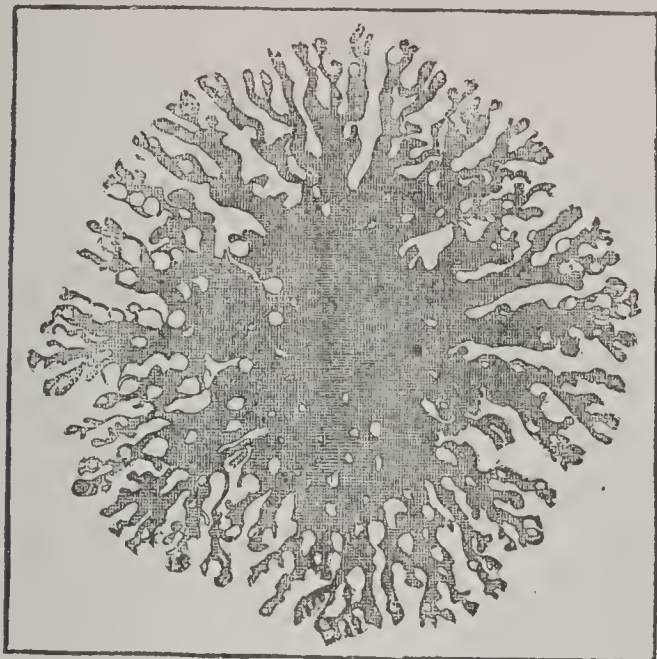


Fig. 5.

bile; fig. 6, oil of bitter almonds. In general appearance, the breath-cohesion figures bear strong resemblance to vegetable forms, especially to the fronds of the *Desmidiæ*. In many of them, as in the *Desmidiæ*, a distinct bilateral

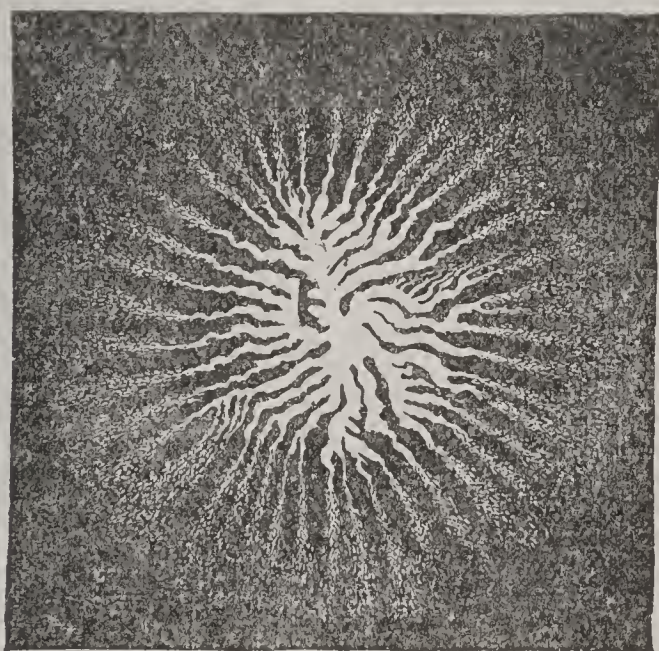


Fig. 6.

symmetry is apparent. Others simulate the forms of the larger *Algæ*. A great many are resplendent with the hues of the soap-bubble, arranged in concentric bands and curves of excessive beauty; while others are veined throughout so as to resemble sections of agate. Dr. Wright considers that the breath-cohesion figure is the product of electric

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attractive force developed on the freshly-split mica, as a well-known consequence of cleavage.

4. *Electric-cohesion Figures of Strethill Wright*, described by Dr. Wright to the Royal Scottish Soc. of Arts, 1864, Apr. 11. They are produced by electrifying drops of various fluids placed on a clean plate of glass, vulcanite, mica, or other smooth non-conducting substance. By this method, an endless variety of beautiful dendritic figures are produced, differing not only with the fluid employed, but also with the slightest change in the character of the surface on which it is placed, and with the electricity, whether positive or negative, which is imparted to the drop. The electric-cohesion figures are produced in the following manner: A sheet of plate-glass is laid upon a plate of blackened metal, and in the centre of the glass a drop of the fluid to be operated on is deposited with a clean glass rod. The metal plate and the drop are then connected with the opposite poles of an induction coil (capable of giving a spark of about half an inch in length) in full action, and immediately branches protrude from the drop, which slowly creep over the glass until they closely cover a circle of four or five inches. The accompanying figure (fig 7) shows that produced on a surface of mica by the positive

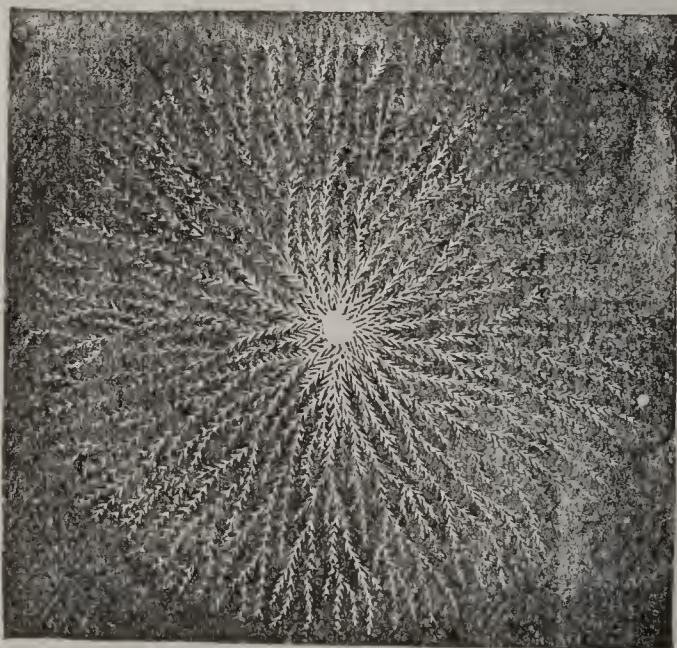


Fig. 7.

pole from a solution of cyanide of potassium. Sulphuric acid, and solutions of potash, deliquescent salts, and organic fluids, give the best figures; while nitric and muriatic acids and distilled water do not form figures under the electric influence.

COHOBATION, n. *kō-hōb-ā'shūn* [F. *cohabation*; Sp. *cohobacion*—from L.L. *cohobatio*—from *cohobo*]: the operation of distilling the same liquid continually with fresh portions of the same substance. as with flowers, leaves, etc.,

COHOES—COHORTATION.

so that the essential oils and other volatile substances accumulate in the distillate.

COHOES, *ko-hōz* or *ko-hōz'*: city of Albany co., N. Y., 9 m. n. of Albany and 3 m. n w. of Troy, on the river bank of the Mohawk at its junction with the Hudson, and at the junction of the Erie and Champlain canals. The Rensselaer and Saratoga railroad and the Troy and Schenectady branch of the N. Y. Central pass through it, and there is a horse railway to Troy, Lansingburg, and Waterford. C. was incorporated as a village 1848, and as a city 1869. The falls, 70 ft. sheer and abt. 1,000 ft. wide, combine picturesque beauty with a magnificent water power. The C. Manufacturing Co., started 1811 and reorganized 1826, accomplished little till a wooden dam was built above the falls 1831: this was replaced 1865 by one of stone, 1443 ft. long, costing \$180,000. Acquiring at an early date a capital of \$500,000, the co. gained control of the Mohawk from half a mile above to a mile below the falls, with a total descent of 120 ft.; the water is utilized in five canals, and leased at \$20 a year for each horse power. A state dam below the falls supplies the canal there. The company's hydraulic canals, supplying power for all the mills of C., were lately improved by vertical stone embankments. The cotton-cloth mills of the Harmony Co. operate about 266,000 spindles, consume 27,000 bales of cotton annually, and produce 85,000,000 yds. of cloth. 25 mills produce yearly knit underwear to the value of \$4,600,000. The manufacture of special knitting machinery has nearly doubled in the last ten years; that of axes and edge-tools goes on at the same rate, producing some \$400,000 annually. In 1900 the city had 316 manufacturing establishments, employing \$11,316,482 capital and 8,673 persons, paying \$3,140,668 for wages and \$6,120,342 for materials, and having products of a combined value of \$11,636,130. The principal articles were cotton, woolen, and worsted knit goods, foundry and machine shop products, boots and shoes, tobacco, and paper boxes. The city has four wards, and is governed by a mayor and eight aldermen. It has spent \$90,000 on the construction of a reservoir holding 70,000,000 gallons, new pumping apparatus, and street mains. An electric lighting plant, operated by water, was introduced 1887. There are numerous schools and churches, several of which have fine buildings, two banks, and two newspapers. Many of the mill-hands are French Canadians, and full half the pop. is of foreign birth. Though the first knitting-mill in the United States was established here, 1832, statistics show the main growth of the place to be comparatively recent. Pop. (1900) 23,910.

COHORT, n. *kō'hōrt* [L. *cohor'tem*, a place inclosed, a company of soldiers: It. *corte*; F. *cohorte*—from OF. *court*]: among the *anc. Romans*, a body of foot-soldiers varying from 430 to 600; a body of soldiers: usually there were 10 cohorts to a Legion (q.v.).

COHORTATION, n. *kō-hort-ā'shūn* [L. *cohortatio*—from

COHUNE OIL—COIMBATORE.

cohortor, to exhort, to encourage]: exhortation; encouragement by words.

COHUNE OIL, *kō-hón'*: fixed oil obtained from the kernel of the fruit of *Attalea Cohune*, a palm (see **ATTALEA**). The oil burns twice as long as the best cocoa-nut oil. The tree attains a height of about 40 ft., but its leaves are 30 ft. long.

COIF, n. *koyf* [F. *coiffe*, a hood or cap—from mid. L. *cofĕā*, or *cofĭā*: It. *cuffia*: comp. Gael. *ciabh*, the hair: Ar. *kufiyah*, a head-kerchief]: a caul or cap; a cap to cover a baldness; the distinguishing badge of a sergeant-at-law: V. to cover or dress with a coif. **COIF'ING**, imp. **COIFED**, pp. *koyft*. **COIFER**, v. *koyf'ér*, to dress the hair. **COIF'ER-ING**, imp. **COIF'ERED**, pp. *-érd*. **COIFFURE**, n. *koyf'fūr* [F.]: a head-dress.

COIF: covering for the head in general, especially for the circular portion on the crown, which the Rom. Cath. clergy are in the habit of shaving, and which is thence called the tonsure. The general meaning of the word is preserved in the verb to coif, coiffed, etc., and still more decidedly in the noun *coiffure*, which, so late as Addison's time, was English as well as French. In England its special signification is now limited to the caul or cap worn by sergeants-at-law, the only reminiscence of the tonsure among lawyers. On attaining the **DEGREES OF THE C.**, or, what is the same thing, becoming a sergeant, a barrister retires from the Inn of Court by which he was called to the bar, and becomes a member of Sergeant's Inn: see **SERGEANT-AT-LAW**. **COIF**, in the armor of the middle ages, was a sort of defensive hood, surmounted by a helmet, sometimes continuous with the hauberk, sometimes separate.

COIGNE, n. *koyñ* [Scot. *coin*; F. *coin*; OF. *coing*, a corner—from L. *cūnĕūs*, a wedge]: a corner; a corner-stone; a jutting angle; a wedge: see **QUOIN**.

COIL, n. *koyl* [F. *cueillir*, to collect—from L. *colligĕrĕ*, to gather: It. *cogliere*: Sp. *coger*]: a rope gathered into a circular heap: V. to gather or wind into a circular heap, as a rope or serpent. **COIL'ING**, imp. **COILED**, pp. *koyld*. **COIL-DRAG**, a tool to pick up pebbles, bits of iron, etc., from the bottom of a drill-hole.

COIL, n. *koyl* [Gael. *coile* and *coileid*, stir, movement: Ir. and Gael. *goil*, to boil, to rage]: in *OE.*, noise and confusion, as the gurgling and gushing of water; disturbance; bustle; stir.

COIMBATORE, *kō-ĭm-ba-tōr'* or *koym-ba-tōr'*: district in the province of Madras; lat. 10° 14'—12° 19' n., and long. 76° 36'—78° 16' e.; 7,842 sq. m. Lying n.e. of the state of Cochin, it is almost entirely beyond the W. Ghauts. Besides the capital (see **COIMBATORE**, city) there are in the dist. the towns of Anamalai, Aravakurichi, Palaghat, and Darrampoor. Pop. about 2,000,000.

COIMBATORE: city in the province of Madras, cap. of a district of the same name; near the left bank of the

COIMBRA—COIN.

Noyel, a tributary of the Cauvery from the right; lat. 11° n., long. $77^{\circ} 1'$ e. It occupies the s. declivity of the Neilgherries, 1,483 ft. above the sea, near the point where those otherwise isolated mountains connect themselves with the W. Ghauts. Almost immediately, s. of the junction of the two chains, the remarkable depression of Palghatcheri traverses the W. Ghauts from e. to w., affording free passage for both the monsoons—the n.e. and the s.w.—in their respective seasons. C., which contains about 2,000 houses, from its proximity to this great gorge, is admirably ventilated during most of the year. This peculiarity, backed by the elevation, tends to promote the salubrity of the place which, however, is seriously impaired by the brackish character of the wells. In the neighborhood is a very large tank. C. is on the line of railway from Madras to the w. coast. Pop. (1891) est. 40,000.

COIMBRA, *kō-ēm'brá*, Port. *kwĩng'brá*: city of Portugal, cap. of the province of Beira, on the right bank of the river Mondego, here crossed by a stone bridge; 110 m. n.n.e. of Lisbon. Built round a conical hill, rising abruptly from the river, and surrounded by olive-gardens and orange-groves, its appearance from a distance is beautiful and picturesque. Interiorly, however, it is not so attractive, its streets being steep, narrow, and dirty. Great historical interest attaches to C., which appears to have been built originally by the Goths. From them it passed to the Moors, from whom it was finally conquered 1064, by Fernando the Great, aided by the gallant Cid. On the erection of Portugal into a kingdom, 1139, C. was made the capital, and continued so about two centuries and a half. Of the public buildings, the most noteworthy are the cathedral, the churches of San Francisco and San Salvador, the convents of Santa Cruz and Santa Clara, and a fine aqueduct of 21 arches, dating from the 16th c. The Univ. of C., the only one in Portugal, was originally established 1290, but permanently transferred here 1537. It has 46 chairs, and about 1,000 students, many of the latter being Brazilians. Attached to the univ. are museums, an observatory, a botanical garden, and a library of 60,000 vols. C. has manufactures of linen, woolen, earthenware, and combs. Pop. 13,200.

COIN, n. *koyñ* [F. *coin*, a wedge, a stamp, a coin—from L. *cunĕūs*, a wedge, the steel die with which money is stamped, probably from the stamping having once been effected by a wedge: Sp. *cuna*, a wedge; *cuno*, a die for coining: comp. Gael. *cuinn*, a coin]: a piece of gold, silver, or copper converted into money by being stamped with certain marks; money: V. to make money of metal; to make or invent, as *to coin* a word; to forge or fabricate. COIN'ING, imp.: N. the act of making money out of a metal; the act of one who coins; the process of making coins. COINED, pp. *koynd*: ADJ. stamped as coin. COIN'ER, n. one who; a maker of base money. COIN'AGE, n. *āj*, the money coined; the metallic currency; new production; invention. COIN-ASSORTER, a machine which separates dif

COIN—COIR.

ferent kinds of coins by size, or coins of the same kind by weight. COIN-COUNTER, an arrangement by which the process of hand counting, piece by piece, is dispensed with. A shovel or tray has shallow depressions of a given length, width, and depth to hold so many coins of a given kind. The coins are shovelled into the tray, which is then skillfully agitated until the coins have snugly occupied all the spaces. The remainder are brushed off, and the complete quota is thrown into a scale to verify the count by weighing. COINING-PRESS, or COINING APPARATUS, a powerful lever-screw press by which the planchet of metal is impressed with the design or legend.

COIN, *kō-ēn'*: town of Andalusia, Spain, about 21 m. w. of Malaga. It is pleasantly situated on a declivity, with wide, clean streets, and environed with fine public walks and gardens. It has manufactures of linen and woolen, soap, paper, etc., and in the vicinity, marble, and jasper are obtained. Pop. 8,200.

COINCIDE, v. *kō'in-sīd'* [F. *coincider*—from L. *coincidēre*—from L. *co*, *incidēre*, to fall into—from *in*, in or on; *cādo*, I fall]: to fall or meet in the same point: to concur or agree. CO'INCIDING, imp. CO'INCIDED, pp. CO'INCIDER, n. one who. COIN'CIDENT, a. *-sī-dēnt*, falling on or meeting at the same point, concurrent; agreeable to. COIN'CIDENCE, n. *-sī-dēns*, the falling on or meeting of two or more lines, surfaces, or bodies at the same point; concurrence; agreement; a happening at the same time. COIN'CIDENTLY, ad. *-lī*.

COIN—COINING: see MONEY: MINT: NUMISMATICS: CURRENCY.

COINING, in Law: privilege restricted to the government. The privilege of C. money being an exclusive prerogative of the crown, the crime of counterfeiting the king's money, as it was called, was declared to be treason, both by the common law of England and by many statutes.

The whole of the legislation on this subject was at length repealed, and a general act passed for the whole kingdom (2 Will. IV. c. 34). This statute forbids—under severe penalties of either transportation or imprisonment—imitating, altering, impairing, or diminishing current coin of the realm; buying, selling, receiving, or paying counterfeit coin, or importing it, with knowledge of its character; uttering base coin; possessing false money with intent to utter it, or the instruments for its fabrication.

In order to bring these offenses within the limits of the statute, it is not necessary that the resemblance of the false to the true coin shall be very perfect; but if it be not such as to deceive a person of ordinary observation, the attempt to bring it into circulation is fraud, and not uttering.

COIR, n. *koyr* [Tamil, *cuyer*, a rope of any kind]: fibre of the husk of the cocoa nut, much used for making ropes, mats, etc. The husks are steeped in water, in pits, for six months, or a year, and then beaten with a stick till the fibre readily separates. C. is now well known as one of

COIRE—COKE.

the best materials for cables, on account of its lightness, elasticity and strength. C. ropes are produced in great quantity in the Laccadive Islands. They are made entirely by the hand—chiefly by women—without the aid of machinery of any kind. The manufacture of cocoa-nut mats from imported husks, is one of the branches of industry in Britain in which children are employed in the industrial or ragged schools, and criminals in prisons.

COIRE: see CHUR.

COIT, *koyt*: see QUOIT.

COIT, *koyt*, THOMAS WINTHROP, D.D., LL.D.: 1803, June 28—1885, June 21; b. New London, Conn. He graduated at Yale 1821, entered the Episcopal ministry, and was rector at Salem, Mass., 1827-29, and at Cambridge 1829-34; pres. of Transylvania Univ., Lexington, Ky., 1834-39; rector at New Rochelle, N. Y., 1839-48, and of St. Paul's, Troy, 1848-72. From 1854 he was also lecturer on eccles. hist. at Berkeley Divinity School, Middletown, Conn., and from 1872 was prof. of that dept. He was counted one of the leading scholars and writers of his church. Among his publications were a *Theol. Commonplace Book*, 1832, *Remarks on Norton's Statement of Reasons*, 1833, two editions of the Bible, 1834-37, *Puritanism*, 1844, *Early History of Christianity in England*, 1859, and *Puritanism in New England and the Episcopal Church*, 1885. He died at Middletown, Connecticut.

COITION, n. *kō-īsh'ūn* [L. *coitōnem*, a coming or meeting together—from *con*, *itum*, to go]: a going or coming together; sexual intercourse.

COIX: see JOB'S TEARS.

COJUTEPEC, *kō-čhō-ta-pāk'*: town of San Salvador, Central America; 15 m. e. of the city of San Salvador, destroyed by earthquake 1854; and it was the seat of government from that year until 1858. Pop. 4,154.

At the distance of a few leagues, a lake of the same name measures 12 m. in length by 5 m. in average breadth; and in windy weather it assumes a green hue, often casting on its shores vast quantities of dead fish.

COKE, n. *kōk* [OE. *colke*, the core of an apple, the remnant of a thing when the virtue is taken out of it: Gael. *caoch*, empty]: coal charred or half burned in kilns or ovens, as in the manufacture of gas: see CHARCOAL: V. to char or half burn. Co'KING, imp. COKED, pp. *kōkt*. COKE OVEN, a building of brick or clay in which coals are charred or made into coke.

COKE: the fuel frequently used in locomotive engines; obtained by heating of coal in ovens, or other arrangements where little air is admitted. Caking coal is most suitable for the manufacture of coke. The process is conducted either (1) in heaps or ridges, or (2) in ovens. The coaking in heaps is called the Meiler method, and consists in placing the coal in round stacks, or in long ridges, occasionally to the length of 200 ft. During the building of the coal, wooden stakes are driven in, which are afterward

COKE.

taken out, and lighted coal introduced at numerous places at the same time. As the coal becomes heated, much smoke and vapor are evolved, which mainly consist of tar, water, and coal gas. Whenever the smoke ceases to be evolved, the process of coaking is regarded as concluded, and the mound or ridge of red-hot cinder, or C., is covered over with fine coal dust, which, excluding the air, extinguishes the combustion. At places where the operation of coaking is conducted regularly on a large scale, it is customary to erect brick chimneys or columns, about the height of the proposed mound, and to build the coal round these, placing the larger masses in the centre, the smaller pieces outside, and ultimately covering the whole with fine coal or dross.

A more economical plan of preparing C. is to introduce the coal into fire brick ovens. The coal is introduced by the top, and being lighted, a little air is admitted by openings in the front. Whenever the coal ceases to evolve smoky vapor, every opening is closed, and the oven is allowed to cool down for 12 to 24 hours. A door in front is then opened, and the C. being raked out while still hot, water is thrown upon it, to stop the combustion. Small coal may be used if it belongs to the caking kind; and a little water sprinkled over it, causes the caking operation to proceed more completely. The proportion of C. obtained from coal in Great Britain ranges from 54 to 73 per cent., so that in round numbers the better class of coal for this purpose loses a fourth of its weight. At the same time, the coal increases in volume to the extent of about $\frac{1}{4}$.

C. is a hard, brittle, porous solid, with a color varying from iron-gray to blackish-gray, and more or less of a metallic lustre, and does not soil the fingers. It absorbs moisture from the air sometimes to the extent of 30 per cent., and contains ash ranging from $\frac{1}{2}$ to 15 per cent. In 1902 there were in the United States 423 coking establishments, with 64,000 ovens in operation, which in the previous year used 34,207,965 tons of coal, and produced 21,795,883 short tons of coke, valued at the ovens at \$44,445,923.

COKE. *kûk* or *kôk*, SIR EDWARD: 1551 (or 2), Feb. 1—1633, Sep. 3; b. Mileham, Norfolk: Eng. lawyer and judge. Educated at the free grammar-school of Norwich, and at Trinity College, Cambridge, he passed then to Clifford's Inn, and subsequently to the Inner Temple, to study law, and was called to the bar 1578, April. His great ability, legal learning, and tact in the conduct of his cases, secured him an immense practice on the very threshold of his career. In 1586, he was appointed recorder of Norwich; in 1592, recorder of London, which position he resigned the same year for the solicitor-generalship. In the following year, he was elected member of parliament for the county of Norfolk, and was chosen speaker of the house of commons. In 1594, he was made attorney-gen., and held that office till 1606, when he was appointed chief-justice of the common pleas. Upright and independent, with high estimate of the dignity and importance of his office, he did not, in an age

COKE.

of judicial sycophancy, hesitate to oppose any illegal encroachment by royalty. The court thought to win him over by making him, 1613, chief-justice of the king's bench. But here he proved equally independent, maintaining, among other things, that the king had no power to stay the proceedings in a court of justice—and this even when his craven-hearted colleagues begged the royal pedant's pardon on their knees for ever having entertained such an opinion. This was too much: C., in a few months, 1616, Nov., was relieved from his chief-justiceship; but in no long time after, the royal favor was in some measure again extended to him. His support of liberal measures in parliament, however, soon brought him into trouble with the court-party, and in 1621–2, he suffered seven months' imprisonment in the tower. In the third parliament of Charles I. (1628), C. was active in framing the celebrated bill of rights, and it was in great measure owing to his advocacy that the lords were induced to agree to it. He is now best known for his law treatise, *Coke upon Littleton, or the First Institute*, a work which is still the standard on questions of constitutional and municipal law in England. His other works are the *Second*, *Third*, and *Fourth Institutes*. *The Complete Copyholder*, and *Reading on Fines*; and his collection of law reports, which made an epoch in the history of law on their appearance, are still of great value for the profession in England and the United States.

COKE, THOMAS, D.D., LL.D.: 1747, Sep. 9—1814, May 2; b. Brecon, S. Wales; first Methodist bishop. He was educated at Jesus College, Oxford, became mayor of Brecon 1772, was ordained, and was for a short time curate of Petherton, but soon joined Wesley, made himself useful, was appointed supt. of the London dist. 1780, and pres. of the Irish Conference 1782. He was sent, 1784, to exercise similar functions in America; the precise nature of his commission is a matter of dispute, but Wesley, being a presbyter of the English Church, and holding to some extent the views of that body, knew that he could not make a bishop in the then received sense of that word. C. thought differently, and proceeded, 1784, Dec. 27, to ordain Asbury a bp. and joint supt. of the Methodists in America. After visiting the different conferences he sailed for England, 1785, June, and devoted himself to the work of an itinerant missionary having no fixed residence, but travelling about the English-speaking world. His first mission was established in the W. Indies 1786, and revisited 1788, '90, and '92. He attempted to start others in France and Africa, but was more successful at home. He made nine journeys to America, the last 1803; on one of these, 1797, he was abused and plundered by a privateer. On Wesley's death, 1791, he became sec. of the English Conference, and joined Moore and Whitehead in preparing the *Life of Wesley*, 1792. He also undertook a commentary, which appeared in 3 vols. 1807, and a *History of the West Indies*, 3 vols. 1808–11, besides several other books. His talent, however, was rather for working than for writing. He founded a mission at Gibraltar 1803, had one begun at Sierra Leone 1811,

COKES—COLBERT.

and gave £6,000 for another at Ceylon 1813. Sailing with others Dec. 30 for this point, he died at sea on the way thither. His *Memoir* was written by S. Drew 1853.

COKES, n. *kōks*: in *OE.*, an empty-headed person; a fool: see COAX.

COL, *kōl* [Fr. *neck*], in Geography: depression or pass in a mountain-range. In those parts of the Alps where the French language prevails, the passes are usually named cols—as the Col de Balme, the Col du Géant, etc.

COLANDER, n. *kūl'ān-dēr* [Sp. *colado*, a lye of ashes for bucking clothes; *colādēro*, a strainer for the lye: L. *colans*, straining or filtering]: a vessel of tin or earthenware with a perforated bottom; a sieve: also spelled CULLENDER.

COLA NUT, or KOLA NUT, *kō'la*: seed—not properly a nut—of *Cola acuminata*, or *Sterculia acuminata*, a tree of the nat. ord. *Sterculiaceæ*, native of the tropical parts of the w. coast of Africa, and cultivated in other tropical countries. There are two varieties of the tree—one with broad, the other with narrow, leaves. The natives of Guinea value the seeds very highly, believing that to take a portion of one of them before their meals, improves the flavor of whatever they may eat or drink. When sucked or chewed, cola nuts are generally asserted to render the flavor even of very puriā water agreeable (but see foot-note under TEA). They are said to possess properties analogous to Peruvian bark. They are of the size of a pigeon's egg, of a brownish color, and bitter taste. They are mentioned by almost all travelers in w. Africa.

COL'AR'CO, in Music: with the bow, in contra-distinction to *pizzicato*.

COLARIN, n. *kōl'ar-īn* [It. *collarino*]: the little frieze of the capital of the Tuscan and Doric column placed between the astragal and the annulets: see NECK.

COLATION, n. *kō-lā'shūn* [L. *colatus*, pp. of *colo*, I strain, filter, or clarify]: the act or process of straining or filtering; colature.

COLBERG, or KOLBERG, *kōl'bērĕh*: fortified seaport of Prussia, province of Pomerania, on the Persante, near its mouth in the Baltic; lat. 54° 9' n., long. 15° 34' e. It stands on a hill, surrounded with swamps which can be readily laid under water, and is notable for the protracted sieges which it has undergone. In 1102, Duke Boleslaus of Poland besieged it in vain. It endured long sieges in the thirty years' war, and in the seven years' war, and again 1807, when it was most gallantly defended against the French C, has manufactures of woolen, salt, and spirits; and salmon and lamprey fisheries. Pop. (1890) 16,999

COLBERT, *kōl-bār'*, JEAN BAPTISTE: 1619–1683, Sep. 6; b. Rheims, France: minister of finance to Louis XIV. He served his apprenticeship in a woolen-draper's shop; afterward went to Paris, where his talents introduced him to Mazarin, who soon employed him in most important affairs of state. On his death-bed Mazarin warmly recommended

COLBERTINE—COLBURN.

C. to the king, who, 1661, appointed him controller-gen. of finances. C., who found the finances in a ruinous condition, immediately began his reforms. Fouquet, the superintendent under Mazarin, was found guilty of impoverishing the state by his maladministration, and imprisoned for life. C. next instituted a council of finance and a chamber of justice, to call to account the farmers of the state-revenues, who were forced to yield up all the resources of the crown of which they had fraudulently possessed themselves. The debts of the state C. also reduced by arbitrary composition. So complete and thorough was the change which C. effected that in 20 years the annual revenue had risen to 116 million livres, of which 23 were spent in collection and administration; whereas, when the management of the finances was intrusted to him, the revenue amounted only to 84 million livres, and 52 millions were absorbed in its collection. C. did not rest satisfied with being a monetary reformer, but in various ways developed the industrial activity of the nation by state support. Commerce was extended, roads and canals—including that of Languedoc—were made. He organized anew the colonies in Canada, Martinique, and St. Domingo, and founded others at Cayenne and Madagascar. Made minister of marine 1669, he found France with a few old rotten ships; three years later, she had a fleet of 60 ships of the line, and 40 frigates. C. improved the civil code, introduced a marine code of laws, as well as the so-called *Code Noir* for the colonies; and statistical tables of the population were first made out by his orders. While attending to material interests, he did not neglect the arts and sciences; all men of learning and genius found in C. a generous patron. The academies of inscriptions, science, and architecture were founded by him. In short, C. was the patron of industry, commerce, art, science, and literature—the founder of a new epoch in France. Notwithstanding the ingenuity of C., the unbounded extravagance of his master led him to raise money in ways objectionable to his reason, and to maintain war taxes in time of peace. He died, bitterly disappointed, because his great services were but ill appreciated by the king. The people, enraged at the oppressive taxes, would have torn C.'s dead body in pieces, but for the intervention of the military, and his burial by night. Because he had brains without high birth, he was vexed and persecuted, both in private and public life, by those who, having birth, lacked brains.

COLBERTINE, n. *kōl'bér-tīn* [from M. Colbert, superintendent of the French royal lace manufactories, 17th c.] a kind of lace.

COLBURN, *kōl'bérn*, WARREN: 1793, Mar. 1—1835, Sep. 15; b. Dedham, Mass.: mathematician. His parents were poor and migratory; as a boy he worked in various factories, and learned the machinist's trade. He graduated at Harvard 1820, and published 1821 his *First Lessons in Intellectual Arithmetic*, which had an enormous sale at home, and was translated into most languages of Europe and several of Asia. A *Sequel* followed 1824, and an

COLBURN—COLBY UNIVERSITY.

Algebra 1828. After teaching nearly 3 yrs., he became supt. of the Boston Manufacturing Co. at Waltham 1823, Apr., and of the Merrimack Co. at Lowell, 1824, Aug. Here he introduced some valuable improvements in machinery, acted as supt. of schools, and from 1825 lectured on nat. hist., commerce, physics, astronomy, etc. He became a fellow of the Amer. Acad. of Arts and Sciences 1827, and was for some years an examiner in math. at Harvard.

COLBURN, ZERAH: 1804, Sep. 1—1840, Mar. 2; b. Cabot, Vt.: lightning calculator. His strange mathematical power developed at the age of six, and his father, rejecting the offer of Dr. Wheelock, pres. of Dartmouth, to educate the boy, put him on exhibition as a prodigy. In Boston, 1811, he astonished the learned as well as the public, and thence was carried to the South, and 1812 to England. In Paris he gave instantly the factors of 4,294,967,297 (announced as a prime number), the cube root of 268,336,125, etc., and studied for a short time in the *Lycée Napoléon*. The Earl of Bristol placed him in Westminster School 1816–19, but his father cut short his education, and made him prepare for the stage; this failed, and he engaged in teaching. His natural protector and evil genius died 1824, and he returned to America: by this time his extraordinary talent had departed, and left him in every respect an ordinary man. He continued his studies at Burlington College, Vt., joined the Methodists 1825, was an itinerant preacher for nine years, published his *Memoirs* (Springfield, 1833), became prof. of languages in Norwich, Vt., 1835, and died there in his 36th year. His case compares curiously with that of another prodigy, Jedidiah Buxton (q.v.), who remained illiterate, kept his gift, and lived to 70.—C.'s nephew, Zerah C. (1832–70), an eminent authority on engineering, became insane and died by his own hand.

COLBY UNIVERSITY, *kōl'bi*: at Waterville, Me.; organized under the supervision of the Baptists and incorporated by the Mass. legislature 1813 as the Maine Literary and Theol. Institution; first located near Bangor; transferred to Waterville 1818, and chartered by the Maine legislature 1820 as Waterville College. It was conducted with signal success under this name. In 1867 Gardner Colby, a wealthy merchant of Boston, gave it an endowment of \$230,000, to which he subsequently added a gift of \$120,000. In grateful recognition of this munificence, the legislature changed the name to C. U. During the fiscal year 1885–6 some modifications in the courses of study were made, a dept. of mineralogy and geology was fitted up, a new professorship established, and a building to be used as a ladies' hall was purchased. A considerable increase in the art collection and the library was reported. In 1902, the univ. had 14 professors and instructors; 180 students; 80 scholarships; 38,000 vols. in the library; library and apparatus valued at \$130,000; grounds and buildings and other property valued at \$650,000; produc-

COLCHAGUA—COLCHICUM.

tive funds \$420,000. Pres. Geo. D. B. Pepper, D.D., LL.D., was succeeded 1892 by Rev. M. F. Whitman; pres. 1896, Nathaniel Butler, D.D.; pres. 1903, Chas. L. White, D.D.

COLCHAGUA, *kōl-chā'gwā*: prov. of Chili, stretching from the Andes to the Pacific, bounded n. by Santiago and s. by Curico; 3,516 sq. m. It has three rivers, a fertile soil, and the best climate in Chili, but no considerable port or harbor. Gold and copper are found in the mountains. The chief town is San Fernando, abt. 50 m. from the sea and 100 s. of Santiago. Pop. (1891) est. 160,123.

COLCHESTER, *kōl'chēs-tēr*: town of Chittenden co., Vt., on Lake Champlain and Mallet's Bay; chartered 1763, settled 1774. The Onion, or Winooski, and Lamoille rivers are partly in C. The village of C. is on the Vt. and Canada railroad, a few m. n. of Burlington. Pop. (1870) 3,911; (1880) 4,421, of which the manufacturing village of Winooski supplied 2,833; (1890) 5,143; (1900) 5,352.

COLCHESTER, *kōl'chēs-tēr*: parliamentary and municipal burgh and river port, in the n.e. of Essex, England, on the s. bank of the Colne, 12 m. from the sea, 51 m. n.e. of London. It stands on the sides and top of an eminence, and is well built. It has a quay for vessels of 150 tons at the suburb called Hythe. Its former manufactures of baize and silk have both declined. The important oyster fishery has suffered of late. C. returns one member to parliament. In 1880, 1,013 vessels of 55,709 tons entered, and 1,025 of 56,504 cleared the port. C. is the British *Camulodunum* and the Roman *Colonia*. The town-walls, castle, and many churches and other buildings, consist of Roman brick. Great quantities of Roman remains have been found here, bushels of coins of many emperors, vases, urns, lamps, rings, bracelets, pavements, pateræ. C. was ravaged by the plague in 1348, 1360, and 1665. The ruins of the castle, built of cement-stone and Roman brick soon after the conquest, have walls 11 to 30 ft. thick. There are the ruins of an abbey, founded by Eudo the 'Dapifer,' and the remains of a priory. Pop. (1881) 28,395; (1891) 34,559.

COLCHES TER, CHARLES ABBOT, Lord: 1757, Oct.—1829, May 29; b. Abingdon, Berkshire; legal and administrative reformer. He was educated at Westminster School, and Christ's Church College, Oxford, and afterward studied for the bar. Returned to parliament 1795, he in the very next year began his reforming work. He mainly procured the establishment of the royal record commission, and for many years superintended it. He obtained an act for taking the census of the population, the first enumeration under public authority in modern times. On his suggestion the private bill office, which has done much to facilitate parliamentary business, was established. In 1802, he was elected speaker of the house of commons, which office he filled till 1817, May, when ill-health compelled him to resign. He was then elevated to the peerage as Baron Colchester, with a pension of £4,000 a year.

COLCHICUM, *an n. kōl'kē-kūm* [L.]: genus of plants of the nat. ord. *Melanthaceæ*. The species, which are few in

COLCHIS.

number, are stemless, with flowers half subterranean like the crocus, the limb of the perianth and part of tube only rising above ground. The flowers



Meadow Saffron (*C. autumnale*):
a, capsule.

much resemble crocus-flowers, but are readily distinguished by having six instead of three stamens, and three styles instead of one. The seed-vessel does not remain to ripen underground, as in the crocus, but after the flowering is over, rises in the form of three little follicles slightly adhering to each other, on a lengthened stalk. *C. autumnale*, the MEADOW SAFFRON, sometimes incorrectly named *Autumn Crocus*, is plentiful in meadows and pastures in some parts of the continent of Europe. The flowers are pale purple; they appear in autumn, unaccompanied by any leaves; the leaves, which are large and broadly lanceolate, appear in spring, when the stalk which bears the ripening fruit arises among them. The whole plant is very acrid and poisonous, chiefly owing to the presence of an alkaloid called *Colchicine* or *Colchicia*. Cattle are sometimes injured by it in pastures where it abounds. It is not difficult to extirpate, the repeated pulling of it by the hand as it appears above ground, being sufficient; the roots soon become exhausted, and die. It is a valuable medicinal plant, and is much administered, in small doses, to allay the pain of gout and rheumatism. Repeated doses produce

vomiting, purging, increase of the urinary secretion, and profuse perspiration. *C.* is generally supposed to have been the basis of the *Eau medicinale*, long a celebrated empiric remedy for gout. The parts chiefly used for medicinal purposes are the corm (popularly called the root) and the seeds. The seeds are round, brown, rather larger than mustard-seed; and fatal accidents have occurred from their poisonous nature.—Other species of *C.* appear to possess similar properties. The *hermodactyls* of the druggists' shops, which for many centuries have had extensive celebrity for soothing pains in the joints, and are brought from the Levant, are believed to be the corms either of *C. variegatum* or *C. bulbocodioides*; the former of which is probably the *C.* of the ancients—*C. autumnale* is not unfrequent in flower-borders, particularly a variety with double flowers.

COLCHIS, *kōl' kīs*: province of anc. Asia, on the east coast of the Pontus Euxinus or Black Sea, n. of Armenia,

COLCOTHAR—COLD.

and s. of the Caucasus. It now forms the Russian province of Imerethia, with the districts of Mingrelia and Guria. It was celebrated in the very earliest times as the native country of Medea (q.v.), and the goal of the Argonauts (q.v.), and was afterward better known to the Greeks as the seat of some colonies of the Milesians. It was noted for its wine and fruits. The Colchians, according to Herodotus, were of Egyptian descent, being relics of the army of Sesostris, which he attempts to prove by various arguments. In the time of this historian they were subject to Persia; subsequently, they threw off their allegiance, and were ruled by kings of their own; the country then came under the dominion of Mithridates, king of Pontus. afterward, there were princes of Colchis dependent on the Romans. The principal town was Dioscurias (called under the Romans Sebastopolis), and now Isgaur; the principal river the Phasis.

COLCOTHAR, n. *kôl'kô-thér* [new L.]: the brown-red peroxide of iron, produced by calcining sulphate of iron, used for polishing glass, etc.

COLD, a. *kôld* [Goth. *kalds*, cold. Icel. *kaldr*, cold; *kala* to blow cold: Ger. *kalt*, cold]: not warm or hot; frigid; indifferent; without zeal; without affection; wanting in animation; not cordial: N. the sensation or feeling produced by the want or loss of heat, and the cause of that sensation; a disease occasioned by cold (see CATARRH); a shivering or chilliness. **COLDED**, pp, a. *kôld'éd*, affected with cold. **COLD'ISH**, a. *-ish*, somewhat cold. **COLD'LY**, ad. *-li*, with indifference; not warmly. **COLD'NESS**, n. want of heat; the power to produce the sensation of cold; frigidity; want of zeal; want of kindness; want of passion. **COLD-SHOULDER**, neglect; an assumed distant manner to a former friend. **COLD BLOODED**, a. without feeling or concern; without provocation; in *zool.*, applied to all animals which have not warm blood, that is, those below the class of birds. **COLD-CHISEL**, a chisel used for cutting metals, and driven by blows of a hammer. **COLD-FINCH**, the Wag-tail (q.v.). **COLD-SHUT**, a term meaning that a link is closed while cold without welding. **COLD-SORE**, *kôld'sôr*, herpetic eruption, on the lips or about the nostrils, often accompanying a cold in the head or catarrhal inflammation of the nasal passages and pharynx. **IN COLD BLOOD**, dc liberately; without excitement or passion—generally in a bad sense. **COLD-HEARTED**, a. wanting feeling or passion. **COLD-DRAWN OIL**, a superior oil, as castor-oil, obtained from the pressure of the seeds or fruits, and not from boiling them. **COLD-STEEL**, the sword or bayonet as the arbiter of a quarrel. **COLD WITHOUT**, in *slang*, spirits and cold water without sugar.

COLD: term signifying a relative lack of sensible heat. There are, therefore, no determinate boundaries between cold and heat, and it is a mere arbitrary distinction to call the degrees of the thermometer below the freezing-point, degrees of cold. When the atmosphere, or any substance which comes in contact with our body, contains

COLD.

less heat than the body, it absorbs heat from the body, and we call it cold: see HEAT.

There is a noticeable physiological action of C. on the animal organism. All animals (the warm-blooded animals to the greatest extent) have a certain power of maintaining the heat of the body, in defiance of external cold (see ANIMAL HEAT). This power is due mainly to a process analogous to combustion, in which carbon and hydrogen taken into the system in food are made to unite with oxygen derived from the air by respiration. If the combustible materials are not duly furnished, or if the supply of oxygen be deficient (as in various diseased conditions), there must be a depression of temperature. Now, if the temperature of a bird or mammal (except in the case of hibernating animals) be lowered about 30° below its normal standard (which in birds ranges from 108° to 112° , and in mammals from 98° to 102°), the death of the animal is the result. The symptoms indicating that an animal or a man is suffering from a depression of the temperature of the body, are, retardation of the circulation of the blood, causing lividity of the skin, which is followed by pallor, in consequence of the blood being almost entirely driven from the surface, through the contraction of the vessels; a peculiar torpor of the muscular and nervous systems at the same time manifests itself in an indisposition to make any effort or exertion, and in intense sleepiness. The respiratory movements become slower, for physiological reasons (for which, see RESPIRATION), and the loss of heat goes on, therefore, with increasing rapidity, till the fatal limit is reached, and death supervenes.

In hibernating animals (the marmot, dormouse, bat, etc.) the power of generating heat within their own bodies is very slight, their temperature following that of the external air, so that it may be brought down nearly to the freezing-point. At this low temperature the vital actions are scarcely perceptible, but when the temperature is again raised, the vital activity returns. The respirations (in marmots) fall from 500 to 14 in the hour, and are performed without any apparent movement of the walls of the chest; the pulse sinks from 150 to 15 beats in the minute; and the animals can with difficulty be aroused from their torpor. For additional matter bearing upon this subject, see HIBERNATION: STARVATION: DORMANT VITALITY: TEMPERATURE OF THE BODY.

C. is one of the most powerful depressing agents, and is a fruitful cause of disease, and even of death. Thus it is observed, that whenever the temperature of the atmosphere is suddenly reduced, and particularly when it is reduced below the freezing point, a considerable addition takes place to the mortality of the country at large. The effects of C. are, in ordinary circumstances, most apparent among the aged and the very young, and among those suffering from chronic disease; but when a very low temperature is long continued, even the healthy are sure to suffer, when impoverished so as not to have sufficient means of external warmth in their homes. The most di-

COLD CREAM—COLDEN.

rect effects of C. are in the production of what is commonly called frost-bite. The part so affected is deprived of circulation, and does not bleed on being wounded; it is marble-white or livid, and has lost all sensibility; and if the exposure is continued, or reaction is brought about too rapidly, it is apt to pass into gangrene. The extremities, especially the fingers and toes, and the tip of the nose, are the parts most liable to frost-bite. The remedy is an exceedingly gradual restoration of the temperature, with gentle friction. In Russia, friction with snow is commonly resorted to, so as to secure against too rapid reaction. The effects of C. upon the general system are described by arctic voyagers, and a medical detail of them may be found in Baron Larrey's interesting account of Napoleon's disastrous campaign in Russia. The circulation is much depressed; diarrhea and rheumatic pains are frequent; in the end, the general sensibility becomes impaired, and an irresistible tendency to lie down is experienced, with excessive drowsiness. If this be not resisted, death is certain. For the disease commonly termed 'a cold' see CATARRH.

COLD CREAM: preparation of fatty substances, used as a mild and cooling dressing for the skin. It may be prepared by heating gently four parts of olive oil, and one part of white wax, till a uniform liquid mass is obtained, when a little color and scent may be added; the mixture is then allowed to cool, but must be stirred the whole time, so as to prevent the concretion and consequent separation of the wax. Another variety is prepared with the addition of hog's lard, but the latter sometimes contains common salt, and is liable to become more or less rancid. C. C. softens the skin, and tends to promote the healing of wounds and of chapped hands.

COL DE LA SEIGNE, *kol dēh lá sěñ*: a pass in the Alps leading from Savoy into the Val d'Aosta in Piedmont. It is 8,422 ft. high, and seven m. w.s.w. of Mont Blanc. The term *Col* [Lat. *collum*, neck] is applied to several other Alpine passes.

COLDEN, *kōl'dēn*, CADWALLADER: 1688, Feb. 17–1776, Sep. 28; b. Dunse, Scotland: scientist and lieut.-gov. of N. Y. He graduated at the Univ. of Edinburgh 1705, emigrated 1708, practiced as a physician at Philadelphia, and was a founder of the Amer. Philos. Soc. Visiting London 1715, he won repute by a paper on *Animal Secretions*, read before the Royal Soc. Invited to N. Y. by Gov. Hunter 1718, he became its first surveyor-gen. and master in chancery 1719, and a member of the council 1720. He lived for some time on the Hudson near Newburg, exposed to Indian attacks, but mingling scientific studies with his official duties. He was lieut.gov. from 1761, and often acted as gov. in cases of vacancy or absence. On one of these occasions he incurred popular odium and attack, 1765, Nov. 1, by receiving and defending the obnoxious stamps. C. corresponded during most of his life with Franklin and other men of learning, gave Linnæus an account of over 300 American plants, and wrote much on

COLDEN—COLD HARBOR.

medical, botanical, and other scientific subjects. His *History of the Five Indian Nations*, 1727, was reprinted in London 1747 and '55, and in New York by J. G. Shea 1866. On Gov. Tryon's return 1775, C. retired to Long Island, and there died soon after the great fire in New York.

COLDEN, CADWALLADER DAVID: 1769, Apr. 4—1834, Feb. 7; b. Springhill, near Flushing, L. I.: grandson of CADWALLADER C. He was partly educated in London, came home 1785, studied law, and practiced it with great success from 1791 in New York, with an interval of three yrs., 1793–96, at Poughkeepsie. He was dist. attorney 1810, col. of vols. 1812, mayor of New York and member of the assembly 1818, in congress 1821–23, and in the state senate 1824–27. He was long a gov. of the New York hospital, and took part in De Witt Clinton's measures for internal improvements, public education, and the reformation of juvenile offenders. He wrote a *Life of Robert Fulton* (N. Y. 1817), a *Vindication of the Steamboat Right granted by N. Y.* and successfully contested by Vanderbilt (1819), and a *Memoir of the Celebration of the Completion of the N. Y. Canals* (1825). He died at Jersey City.

COLD HARBOR, (FIRST) BATTLE OF: see GAINES'S MILL, BATTLE OF.

COLD HARBOR, (SECOND) BATTLE OF: 1864, June 3, on the Chickahominy, in Hanover co., Va., 10 m. n.e. of Richmond. After the battles of the Wilderness, May 5, 6, and Spottsylvania, May 11, both armies moved toward the scenes of the conflicts of 1862, June, Lee retreating s., and Grant following and trying to flank him. May 31, Gen. Sheridan, leading the advance with two divisions of cavalry, dislodged the Confederates from 'C. H., a small hamlet. June 1, 5 p.m., Gens. Wright and W. H. Smith, with the 6th and 18th corps, carried part of Lee's first line, but were repelled from his second with a loss of 2,000; meantime the rest of the Union army resisted several Confederate attacks. June 2 the Federal army was rearranged, Hancock's corps, the second, being on the left. Wright's next, then Smith's, then Warren's (5th), and Burnside's (9th), drawn out at length. In getting into place the last two were attacked, and lost some prisoners. Lee, who had but 50,000 men, was strongly intrenched near the river. Grant, with 150,000, attacked at 4 a.m., June 3, in the rain. Barlow's div. of Hancock's corps found themselves in a sunken road under a terrible fire, and retired, leaving a third of their number. Gibbons's div., adjoining, reached the enemy's works, but were driven back. Wright and Smith kept up the fight an hour, but with no better result. Warren was merely to hold the forces opposite him in check with his artillery, while Burnside was to flank the Confederate left: this movement was executed slowly, but promised success, when the order was countermanded by Meade, owing to the failure of the attack by the Federal left. During this hour or less of battle the Union losses were full 7,000, those of Lee hardly half as much. Grant's troops were withdrawn and intrenched themselves: a later assault was meditated but abandoned. Gibbons's div. of

COLD STORAGE—COLE.

the 2d corps repelled an attack in the evening. The Union effort was a failure, involving a loss of 13,000.

COLD STORAGE: the method now generally employed to preserve perishable articles of food by the aid of freezing machines, which reduce the temperature of the air till the food is needed for consumption. Cold storage warehouses are found in all the principal cities. They are used in connection with large markets to keep unsold materials from one market day to another, and in the transportation of perishable materials by ship or car. Meat thus preserved needs to be used immediately on being thawed out, as it is likely to spoil much more quickly than unfrozen meats. The cold storage building erected by the United States Government at Manila is probably unexcelled in scientific construction. Its storage capacity is 1,200 tons of beef, 200 tons of mutton, 50 tons of butter, 100 tons of potatoes, and 100 tons of bacon, or in other words, sufficient food to feed an army of 10,000 men for three months. In connection with the ordinary freezing apparatus it also has an ice plant with a daily output of 40 tons. The power in the building is furnished by three 200-horsepower engines. The appliances, including an elevator with 2,400 pound lifting capacity, are operated by electricity. An overhead tracking system extending 4 miles connects with the elevator, and the mechanism is so complete that a ship landing at a nearby pier has only to open her hatches and her cargo is transported almost automatically.

COLDSTREAM: border town in the s. of Berwickshire, Scotland, on the left bank of the Tweed, 15 m. s.w. of Berwick: on one of the main routes from Scotland to England. It is irregularly built on a high site. Pop. (1881) 1,616. Near C. is the famous ford of the Tweed, where the Scotch and English crossed in former times, before the erection of Berwick bridge. By this ford Edward I. entered Scotland 1296, and near it he met the Scottish nobles, to settle the dispute of Bruce and Baliol about the crown of Scotland. By this ford also the Scottish army entered England 1640. Here Gen. Monk, 1659-60, raised the regiment still known as the Coldstream Guards (q.v.). Being a border town, C., like Gretna Green, was formerly celebrated for its clandestine marriages.

COLDWATER, *kôld'waw-tér:* city, cap. of Branch co., Mich., on the Mich. Southern railroad, 103 m. s. by w. of Detroit, and nearly half way to Chicago. It is the centre of a fertile farming region. The Coldwater river supplies water-power to several mills. C. has seven churches, two newspapers, two libraries, a high school, a state school for poor children, a park, and two banks. Pop. (1890) 5,247; (1900) 6,216.

COLE, *kôl,* THOMAS: 1801, Feb. 1—1848, Feb. 11; b. Bolton-le-Moor, Lancashire: painter. His taste for art developed early, but met neither encouragement nor direction. He emigrated to America 1819; went, 1820, to

COLEBROOKE—COLEOPTERA.

Steubenville, O., with his father, a small manufacturer, and attempted, 1822, to begin portrait painting at Clairsville and Zanesville. Turning to landscapes, he made studies near Pittsburgh, and for two winters endured many privations in Philadelphia. Removing, 1825, to New York, he opened a studio in his father's garret on Greenwich street, and visited the Catskills; their scenery stimulated him, and the pictures he now produced won speedy attention. An era of prosperity now dawned upon him; but he was not content to be a copyist of nature, and determined to follow his imagination. His *Garden of Eden* and *Expulsion* were exhibited 1828; his *View in N. H.*, *Tomb of Gen. Brock*, and *View in the United States* in London 1830-1. He spent 1831-2 in Italy, and acquired a richer style, which did not wholly please his friends at home. The series of five pictures constituting his *Course of Empire* was painted, with others, 1833-36 for Luman Reed of New York, and now belongs to the N. Y. Hist. Soc. The *Voyage of Life*, in four paintings, familiar everywhere through Smillie's engravings, followed, with the *Departure*, the *Return*, and a *Dream of Arcadia*. A copy of the *Voyage of Life*, executed in Rome 1841, won the praise of Thorwaldsen. His Sicilian landscapes (1842) and others were exhibited in Boston and New York 1843-4; his *Mt. Etna*, done in five days, and *White Mts.*, are in the Wadsworth gallery at Hartford. He wrote an unpublished dramatic poem (1835), a tale, and some sketches of travel. C. died near Catskill, N. Y. His friend Bryant delivered a memorial oration, and his life was written by L. L. Noble 1855.

COLEBROOKE, *kōl'brūk*, HENRY THOMAS: 1765-1837, Mar. 10: eminent orientalist. He early went out to India, where, having served in various civil capacities under the E. India Company, he was appointed Sanskrit prof. in the newly founded college at Fort William. Afterward he became a judge at Mirzapore, and subsequently held the appointment pres. of the board of revenue. During his residence in India, he had gained an extensive knowledge of the literature of the Vedas and their commentators, as well as of the writings of ancient Hindu grammarians, metaphysicians, and mathematicians. A sound critical judgment marks all his writings. He was a director of the Bengal Asiatic Soc.; and many of the most valuable essays in the *Asiatic Researches* were by him. These, with other papers, were republished as *Miscellaneous Essays*, 2 vols., 1837. He also made translations from the Sanskrit works on Hindu law, algebra, arithmetic, and mensuration, which were important contributions to the history of mathematics. Among his other publications are a Sanskrit dictionary and grammar, and treatises on the philosophy and sacred books of the Hindus. He died in London, where he had for some years been pres. of the Asiatic Society.

COLENSO, JOHN WILLIAM, D.D. · see NATAL, BISHOP OF.

COLEOPTERA, n. plu. *kōl'ē-ōp'tēr-ā* [Gr. *kolēōs*, a sheath; *ptēron*, a wing]: the order of insects called beetles.

COLEOPTERA.

whose forewings form a membranous or horny sheath covering for the hinder pair of wings. COL'EOP'TERAL, a. pertaining to; also COL'EOP'TEROUS, a. -*us*. COL'EORHIZA, n. ῥιζᾱ [Gr. *rhiza*, a root]: the sheath which covers the young rootlets of grasses, and some other monocotyledonous plants.

COLEOP'TERA, or COLEOP'TEROUS INSECTS: order of insects which, with a little change of limits and characters, has been recognized since the days of Aristotle. The number of species enumerated by naturalists, and of which examples are gathered in museums, amounts to many thousands. The C. are sometimes collectively called *beetles*, though that name is generally more limited in its application, and many of them are known by other names, as weevils, lady-bugs, etc. The glowworm and the blistering-fly (*cantharis*) belong to this order.

The C. may be described as four-winged insects, which have the first pair of wings converted into crustaceous wing-cases (*elytra*), and the second pair of wings folded crosswise under these when not in use. In some of them the membranaceous wings are absent, or rudimentary, in one or in both sexes, for there is often a difference of the sexes in this respect; more rarely the elytra also are absent in one sex, as in the female glowworm. The head and antennæ vary extremely in different C., the antennæ often differ considerably in the male and female of the same species. The first segment of the thorax (*prothorax*) is greatly larger than the other two. The abdomen is united to the thorax by its whole width, and not by a stalk. C. have two composite eyes, and no additional simple or stemmatic eyes (*ocelli*). The mouth is fitted for cutting, gnawing, tearing, or chewing, but never at all for suction, and exhibits in the greatest perfection of development the complicated structure which belongs to the mouth of all the *masticating* or *mandibulated* insects. See INSECTS. The

annexed cut exhibits the parts of the mouth of a beetle. A, the upper side; B, the under side; C, the parts separated; *a, a*, antennæ; *e, e*, eyes; *l1*, upper lip (*labrum*); *l2*, under lip (*labium*); *m*, upperjaws (*mandibles*); *mx*, lower jaws (*maxille*); *mp*, maxillary palpi; *lp*, labial palpi; *c*, chin (*mentum*). The upper jaws or *mandibles* are hard and horny in most of the C. but comparatively soft in those which feed on vegetable juices, or on putrescent animal matter. The food of the C. is very various: some prey on other insects, worms, etc.; some feed on carrion; some on rotten wood, some on wood in a fresh and growing state, some on the roots of grasses and other plants, some on grain, some on leaves, some on flowers, etc. The food of their larvæ is equally various; but perfect insects and larvæ generally are alike in being very voracious. Their digestive organs



are alike in being very voracious. Their digestive organs

COLERAINE—COLERIDGE.

exhibit great diversities, according to their food. The C. are among the insects which undergo complete transformations, and of which the pupa is inactive. The larva (grub) is generally like a short, thick worm, with a scaly head and mouth, generally with six legs, of which, however, some species are destitute. Coleopterous insects are distributed over all parts of the world, but are most abundant within the tropics, where also they attain their greatest size and greatest brilliancy of colors. The splendor of the metallic tints exhibited by many of the tropical species is not excelled in nature. The order, however, contains also many species of dull hue, and unattractive appearance. Many of the C. are noted for the mischief which they do to crops, stores of provisions, timber and articles of furniture, trees, etc.; few of them are of any immediate use to man, the principal of these being the blistering-flies or cantharides.

COLERAINE, *kōl-rān'*: municipal borough and seaport in Londonderry co., Ireland; chiefly on the right bank of the Bann, 4 m. from the sea, 47 m. n.n.w. of Belfast, with which it is connected by railway. It consists of a central square and several diverging streets. C. has manufactures of fine linens, leather, paper, and soap, and a large salmon and eel fishery, which produces a rent of nearly £5,000. The river Bann has recently been deepened, so that, since 1873, larger vessels reach the quay at C. In 1880, 413 vessels, of 54,119 tons burden, entered the port, and 405, of 53,169 tons, cleared. The revenue of the borough, 1875, was £2,463; debt, £13,109. Pop. (1871) 6,082, of whom 1,329 Rom. Cath., 2,090 Prot. Episc., and 2,124 Presb.; (1881) 5,899; (1891) 6,845.

COLERIDGE, HARTLEY: 1796, Sep. 19—1849; b. Clevedon, near Bristol, England; eldest son of Samuel Taylor C. In 1815, C. was entered a scholar of Merton College, Oxford. At the university he became the slave of intemperate habits, and after obtaining the Oriel fellowship 1818, he was judged by the authorities to have forfeited it. He then went to London, wrote for the *London Magazine*, publishing some sonnets of remarkable beauty. He afterward went to Ambleside to receive pupils, but the scheme failed. Near this little town, so associated with genius, he resided till his death. He inherited much of his father's genius, and all his weakness of will. He wrote good verses and better prose. As a writer of verse he is best known by his sonnets, some of which are surpassed only by those of Milton and Wordsworth. His most important prose works are the *Worthies of Yorkshire and Lancashire*, and the *Life of Massinger*.

COLERIDGE, Sir JOHN TAYLOR, D.C.L.: jurist: 1790—1876, Feb. 11; b. Tiverton, Devonshire; nephew of the poet Samuel Taylor C. He was educated at Corpus Christi Oxford, and the Middle Temple, London; called to the bar 1819, and travelled the western circuit; judge of the king's bench 1835—58, and privy councilor 1858, June. He advised and exemplified the union of general culture with law; he edited the *Quarterly Review* 1824—25, annotated

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Blackstone's *Commentaries* (4 vols. 1825), and wrote a life of Keble (1869). Sir JOHN DUKE C., now Baron C., chief-justice, is his son.

COLERIDGE, SAMUEL TAYLOR, 1772, Oct. 21—1834, July 25; b. Ottery St. Mary, Devon, England, of which parish his father was vicar. He was educated at Christ's Hospital, and numbered Charles Lamb among his school-fellows. His acquirements in Greek were extensive; and before his 15th year he plunged boldly into the sea of metaphysics, and exercised himself therein until the day of his death. His industry, though desultory, was great; he read whole libraries. Full of book-knowledge, and without ambition or any practical bent, he was on the point of apprenticing himself to a shoemaker, when his head-master interfered, and rescued to literature and thought his most distinguished scholar. A copy of Mr. Bowle's sonnets falling into his hands at this time, attracted him toward poetry, in which for a time he found rest.

In 1791, C. entered Jesus College, Cambridge. At the university he displayed no mathematical aptitude; his whole mind was given to classics, and he obtained a prize for a Greek ode. He did not take a degree. During the second year of his residence at the university, in a fit of despondency occasioned by an unsuccessful love affair, he quitted Cambridge for London, and enlisted in the 15th Dragoons, under the assumed name of Comberbach. He never advanced beyond the awkward squad, and he bore to the close the reputation of the worst rider in the corps. One of the officers luckily discovered his classical acquirements, and, becoming acquainted with his real history, communicated with his friends, and C. effected his discharge.

On his release the poet proceeded to Bristol, and making the acquaintance of certain poetic enthusiasts—Southey was one of the number—whose minds were somewhat unsettled by the revolutionary movement in France, he formed a scheme to emigrate to the banks of the Susquehanna, in Pennsylvania, and there, in pastoral peace and plenty, to bring back the golden age to man. C. found, to his surprise, that before Paradise could be thus regained, money was indispensable; and as of *that* both he and his friends were absolutely devoid, the dream of 'Pantisocracy' had to be given up. About this time Joseph Cottle, book-seller in Bristol, paid C. 30 guineas for a volume of poems, and after many delays and the advancement of additional sums, the volume was published. In 1795, he married Miss Fricker—his friend Southey on the same day wedding another sister—and removed to Nether Stowey, a village in Somersetshire, in which neighborhood Wordsworth was then staying. It was here, surrounded with beautiful scenery, and in daily communication with the graver and intenser spirit of his friend, that C.'s principal poems were composed. Here he wrote the *Ancient Mariner*, and the first part of *Christabel*, the music of which took captive Scott and Byron, and which was imitated by both with no remarkable success. At this time, C. was in theology a

Unitarian, and preached frequently to congregations of that religious sect. In 1798, he visited Germany, and studied at Göttingen. On his return to England, he went to reside at the lakes, where Wordsworth and Southey then lived; and then it was that the nickname 'Lake poets' was applied by the opposition reviews to the trio of friends—a nickname which has long since ceased to be a reproach. In the year in which C. went to live in Cumberland he published his noble translation of Schiller's *Wallenstein*. Having formed a connection with the *Morning Post*, he contributed to its columns articles on politics and literature. In 1804, he was at Malta, acting as sec. to the governor, Sir Alexander Ball, which appointment he held nearly a year and a half. In 1808, he delivered lectures on poetry and the fine arts at the Royal Institution, London; and the next year he commenced the publication of *The Friend*, a serial which did not find much commercial success. By this time C. had written, if he had not published, his finest poems; and imprudent, without resolution or strong sense of duty, and with a taste for German metaphysics, and opium gradually taking possession of him, he left his wife and family with Southey, and went to London, where he resided first with Mr. Basil Montague, and afterward, till his death, with Mr. Gillman at Highgate. Here the rays of his splendid genius shone more and more fitfully through clouds of unsystematic metaphysics, and his mental and moral fibre became more and more debilitated by opium. He meditated many theological and philosophical works, which were to 'reduce all knowledge into harmony,' and many epic poems which were to be the glory of literature, and never advanced so far as the first sentence of either. With the subsidence of the writing faculty, the talking faculty developed itself in C. after a fashion unknown to ancient or modern times. At Mr. Gillman's house he held weekly *conversazioni*, discoursing on every subject, human and divine, for hours; and thither, from all parts of the country, ardent young men came rushing to listen to the wisdom of the sage, in 'linked sweetness' exceedingly 'long drawn out.' Toward the close of his life, his theological opinions underwent a change, and he became a believer in the Trinity. All intellectual pride had ceased, and the most childlike humility had taken its place. He seemed to be conscious that the greatest power which for generations had been granted to any Englishman had been by him miserably wasted. He died at Highgate, in his 62d year.

As an intellectual power, C. manifested himself in a great variety of ways. Compared with his contemporaries, he did not produce a very large amount of original poetry; and of what he did produce a considerable portion is prosaic and artificial, but the residue is of the highest order. No poet ever evolved such exquisite fantasies, or wove the English language into such webs of spiritual melody. He is also to this day the greatest of philosophical critics. He was the first who gave a definite reason for the 'faith that is in us' regarding Shakespeare. He was the first repre-

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sentative of German literature and philosophy in England, and, till Carlyle came, the most potent. His own philosophical and theological writings, though, from constitutional indolence and irresolution, in some measure incomplete, are full of incidental merits, and have given a new impulse to English thought; yet it is right to mention here, that in his philosophical writings he has been convicted of the most extraordinary plagiarism. Professor Ferrier, in *Blackwood's Magazine*, 1840, Apr., 'tracked the footsteps of this literary reaver through the Hercynian brakes' of Schelling's metaphysics (see also Hamilton's Reid, note), and has shown page after page pilfered from the German author. It has been argued, however, by way of explanation and palliation, that C., who certainly did not lack original and penetrating powers as a metaphysician, was, from the sluggishness and irresolution of his mind, better fitted to conceive in outline, and then adapt from others in detail, than to elaborate for himself a system of thought, or even the section of a system; while his notoriously confused and dreamy memory would be apt to mingle and confound what was his own with what *might have been* his own. As a thinker, C. exerted greater influence through conversation than through books; and to him we are largely indebted for what the young men who listened to him at Highgate, among whom were Sterling, Hare, and Maurice, have since produced. A complete edition of his *Poetical and Dramatic Works, with Memoir*, was issued 1877.

COLERIDGE, SARA: 1802, Dec. 22—1852, May 3; b. Keswick, Cumberland; fourth child and only daughter of the poet Samuel Taylor C. Though never sent to school, she had peculiar advantages in the intimacy of Southey and Wordsworth; she mastered six languages, and when not 20 years of age translated Dobrizhoffer's *Account of the Abipones* (3 vols. 1822). A history of the *Chevalier Bayard* followed, from the mediæval French (2 vols. 1825). After a seven years' engagement she married her cousin Henry Nelson C. (1800-43), lawyer and author. They lived at Hampstead till 1837, and then at Chester Place, Regent's Park. His death left her the unfinished task of editing her father's works, which she discharged with signal ability, adding an *Essay on Rationalism* and other matter of her own. Her *Pretty Lessons in Verse for Good Children* (1834) were very popular, and her *Phantasmion, A Fairy Tale* (1837) won high praise. She died in London. Her *Memoirs and Letters* (2 vols. 1873) were edited by her daughter.

COLERIDGIAN, a. *kōl-ridj'ī-an*: pertaining to the philosophy of Coleridge: N. one who adopts the philosophy of S. T. Coleridge (q.v.).

COLEROON': largest and most northerly branch from the Cauvery, flows, after a course of 93 m., into the Bay of Bengal between Trichinopoly on the n. and Tanjore on the s., separating these two districts through its last 80 m. This river is remarkable for two specimens of what is called

an *anakatt*, being something of the nature of a weir or dam. For many years, the bed of the C. has been observed to be gradually deepening, while that of the Cauvery, below the point of divergence, was proportionally rising, so as constantly to lessen the supplies for the irrigation of Tanjore. In 1836, however, two anakatts, an upper and a lower, were constructed, to throw more water into the Cauvery—works which were soon found to act so powerfully as to require the balance of an anakatt across the Cauvery itself.

COLET, *köl'ët*, JOHN, Dean of St. Paul's, London: 1466–1519, Sep. 16; b. London: educated at Oxford. He travelled in France and Italy, became acquainted with Erasmus, and the friend of his own famous countrymen Grocyn, Lilly, Linacre, and Latimer. Like them he studied the Greek language with zeal, and he was one of the most distinguished of the Englishmen who promoted the 'New Learning.' He did much to awaken that spirit of inquiry which led to the Reformation, especially by lectures and the expounding of Scripture in his own cathedral, and was once denounced as a heretic. He is known as the founder of St. Paul's School (1512), and author of works on grammar, *Daily Devotions*, and the *Monition to a Godly Life*.

COLEUS. n. *köl'ë-üs* [Gr. *kolëös* a sheath, referring to the manner in which the stamens are united: L. *culëus*, a bag]: a genus of plants, ord. *Labñätæ*, some of whose species yield beautiful hybrid forms for the garden, many having highly colored yellow and red leaves. COLEIN, n. *köl-ë'in*, a red resinous-looking substance found abundantly in many of the species, and in many flowers and fruits, supposed to be identical with the coloring matter of red wine.

COLFAX. *köl'fäks*, SCHUYLER: 1823, Mar. 23—1885, Jan. 23; b. New York: statesman. He received a very limited education, and on the death of his father and remarriage of his mother settled in New Carlisle, Ind., 1836. He was deputy auditor of St. Joseph co. under his stepfather 1841–49; made campaign speeches for Henry Clay, 1844; was editor of the South Bend *Free Press* a year, then bought it, changed its name to the *St. Joseph Valley Register*, and conducted it successfully; and was sec. of the Chicago harbor and river convention 1847, July, and of the whig convention at Baltimore 1848. In 1849 he was elected a member of the convention to revise the constitution of Ind., and declined a proffered nomination for the state senate; in 1854 was elected member of congress as a republican, and was re-elected to every session till 1869; and was speaker of the house 1863, Dec.–1869, Mar. In 1868 he was elected vice-pres. of the United States on the ticket with Gen. Grant, and 1872 was defeated for nomination by Henry Wilson. Charges of corruption in connection with the Credit Mobilier of America were brought against him 1873, but the house judiciary committee reported that there were no grounds for his im-

COLGATE—COLIBRI.

peachment. Mr. C. was the founder of the female branch of American odd-fellowship, the *Daughters of Rebekah*, and a popular lecturer. He died suddenly at Mankato, Minn.

COLGATE, JAMES BOORMAN: banker: b. New York 1818, Mar. 4. His gifts to religious and educational institutions are very large. To Colgate Univ. (q.v.), of which he had already been a very liberal benefactor, he gave 1891 \$1,000,000 as an endowment fund. Other schools (Baptist) that have shared in his bounty are Rochester Univ., Rochester Theol. Sem., Colby Acad., Peddie Institute, Columbian Univ.—His father, **WILLIAM C.** (1783–1857, b. England), was one of the founders of the (Bapt.) Amer. and Foreign Bible Soc.—C.'s brother, **SAMUEL C.** (b. New York 1822, Mar. 22); d. Orange, N. J., 1897, April 23) was known as a philanthropical worker and giver.

COLGATE UNIVERSITY: institution of learning at Hamilton, Madison co., N. Y.; formerly Madison Univ.; under control of members of Baptist churches, and supported partly by church contributions. The nucleus of the univ. was the Hamilton Literary and Theological Institution (Bapt.) founded 1820, reorganized 1831 as three institutions under one board of trustees—Hamilton Theol. Sem., Madison Univ., and Colgate Acad. These were reunited 1846 and chartered as Madison Univ.; finally the name was changed 1890 to C. U. in honor of its benefactors, James Boorman Colgate (who endowed it (1891) with \$1,000,000) and his brother Samuel. C. U. has its seat near the village of Hamilton, about 50 ft. above the Chenango river, in the midst of a beautiful landscape. Besides the acad. building and the Theol. Sem. building (now called Eaton Hall) the grounds contain the three univ. edifices, West College, East College, containing the halls of the literary societies, and Alumni Hall with its 10 lecture-rooms, chapel, and great audience-room, 107 by 73 ft., for use at commencements and on other public occasions. In West College, besides students' rooms and dormitories, are the museums, nat. history collections, laboratories of chemistry, physics, etc. The library contains more than 45,000 vols. and pamphlets, including a unique documentary history of the Bapt. denomination, which dept., the gift of the Colgate brothers, comprises 32,000 books, pamphlets, and documents, ancient and modern. On the history of the Baptist churches in the United States the collection is already rich and is steadily growing. The special fire-proof building for the library of C. U. was completed 1890 at a cost of \$150,000. C. U. has a fund of \$40,000 for supporting 20 scholarships of \$30 a year and 20 of \$90 a year, for the benefit of those who have served in the U. S. army or navy, and their sons. There are 24 other scholarships of \$30—\$90. Students (1902) 350; faculty, 32; pres., George E. Merrill, D.D.

COLIBERTS, n. *köl'î-berts* [L. *collibertus*, a fellow freed-man]: tenants in socage, particularly villains (peasants) manumitted and raised to the rank of freemen, doing, however, certain duties, partly servile, to their lord.

COLIBRI: see HUMMING-BIRD.

COLIC.

COLIC, n. *kōl'ik* [L. *colicus*; Gr. *kōlikos*, pert. to the colic—from Gr. *kōlon*, the largest of the intestines: F. *colique*]: term used by the later Greek and the Roman physicians to denote diseases attended with severe pain and flatulent distension of the abdomen, without diarrhea or looseness of the bowels: see ALIMENTARY CANAL. COLIC, a. affecting the bowels. COLICKY, a. *kōl'ī-kī*, pertaining to.—The disease (commonly called *gripes* or *belly-ache*) is now generally believed to be spasmodic in character, and to be dependent upon irregular contractions of the muscular coat of the intestines; its supposed particular connection with the colon, or large intestine, however, is not usually to be made out from the symptoms. Painful disorders of the bowels are very frequent in persons who are not attentive to the regular evacuations, especially when they are exposed to cold so as to experience chill or coldness of the feet, which will often suffice to bring on an attack of colic. The disease is usually attended with constipation (q.v.), and ceases when the regular action of the bowels is restored, though often in this case the operation of medicine is attended by continued pain for a time. Warm fomentations to the abdomen may be employed with advantage, sometimes medicated with opium, or decoction of poppy-heads; and great relief is commonly experienced from friction with a warm liniment such as opodeldoc, or the soap and opium liniment. Warmth to the feet, and the recumbent posture, are also to be recommended. In very severe or protracted cases, opium may be taken internally. A good remedy in such cases is a full dose of castor-oil (one ounce or more for an adult), with 30 or 35 drops of laudanum, or of solution of morphia. (Opiates should not be given to children except under medical advice, and in very reduced doses). When C. resists such mild and simple remedies as the above—when it is accompanied by tenderness of the belly, or by hard swelling in any part of it—when constipation is obstinate, or vomiting is present—when there is feverishness, or tendency to exhaustion—or when there is reason to believe that it may depend on any other cause than the mere accumulation of the products of digestion in the intestines, no time should be lost in seeking the best medical assistance that can be procured; for C. is closely allied as a symptom to several very severe and dangerous diseases. One of these complicated forms of C. is termed Ileus [Gr. *eileon*], from the idea that its seat was in the small intestine (*ileum*). It is attended with obstruction of the bowels, often from mechanical twisting or involution of one part with another (hence termed *volvulus*). This is, of course, a disease of extreme danger. The only treatment that can be attempted without medical assistance, is the employment of large injections by the lower bowel, and opium in moderate and repeated doses ($\frac{1}{2}$ grain to 1 grain, or 12 to 20 drops of laudanum) by the mouth, carefully watched, and discontinued if there is any sign of narcotism: see OPIUM. C. pains are present also in peritonitis (q.v.), another most dangerous form of disease; and they form one marked symptom of the slow poisoning by lead (q.v.), oc-

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asionally observed as the consequence of contamination of drinking water by leaden cisterns, etc. In this form, the treatment is different from that of simple C.: see LEAD-POISONING.

COLICODENDRON, n. *kòl-ĩ-kō-dě'n'drŏn* [Gr. *kōlikos*, suffering in the colon; *dendron*, a tree]: a genus of *Capparidaceæ*, consisting of trees and shrubs, in tropical America.

COLIGNY, *ko-lēn-ye'*, **GASPARD DE**: 1517, Feb. 16—1572, Aug. 24; b. Châtillon-sur-Loing: French admiral and general. Introduced at court, he served under Francis I. in Italy, where he evinced great bravery. Under Henry II. he was made an infantry col., and 1552, admiral of France. On the death of Henry II., C., who had previously adopted the reformed faith, became, with the Prince of Condé, one of the great leaders of the Huguenots. In this capacity he was remarkable alike for prudence and bravery. He had the intelligence to plan, as well as the daring to execute, and above all, a heart that was not to be cast down by disasters. At the battles of Dreux and Jarnac, in the former of which Condé was taken prisoner, and in the latter killed, C.'s skill saved the remains of the Protestant army. When peace was concluded, 1570, C. went to court, and was apparently well received by the king (Charles IX.); but the enmity of the Guises, by whom C. was unjustly accused of murdering the Duke of Guise at the siege of Orleans, was stirred up against him, and an attempt was made by one of their menials to assassinate him on the street, 1572, Aug. 22. This attempt at individual murder was but a preliminary to the general massacre of Huguenots two days afterward, in which C. was basely slaughtered, his body being exposed to the vile outrages of the mob.

COLIMA, *kō-lē'má*: volcano of the Cordilleras, in Mexico, height about 12,000 ft.; lat. 20° n., not far from the w. coast of the republic.

COLIMA: a State of Mexico; extending about 100 m. along the Pacific coast; area 2,272 sq. m. Pop. (1868) 63,333; (1890) est. 72,591; (1900) 65,026. Large quantities of coffee, sugar, rice, tobacco, maize, and cotton are grown, the soil being very fertile and the climate warm.

COLIMA: capital of the State of C. in Mexico, comprising nearly the half of its population; in a fertile plain s.w. of the volcano of Colima.

COLIN, n. *kól'in* [F. *Colin*, dim. of *Colas*, a contr. of *Nicholas*, *Nicolas*]: the American Partridge, *Perdrix* (or *Ortyx*) *Virginianus*: see VIRGINIAN QUAIL.

COLISEUM, n. *kól'ĩ-sē'ŭm*, properly (though not in common use) **COL'OSSE'UM**, *kól'os-* [L. *colossēŭs*, of a gigantic size—so named from the *colossus* of Nero adjacent to it]: the amphitheatre of the emperor Vespasian at Rome: see AMPHITHEATRE.

COLL, or **COL**, n. *kól* [F. *col*—from L. *collum*, the neck]: in *geog.*, a rising neck of land separating two valleys.

COLL—COLLAR.

COLL, *köll*: one of the Western Isles of Scotland, off the w. coast of Mull, and forming part of Argyleshire, $2\frac{1}{2}$ m. n.e. of Tiree Isle. It is 14 m. long from n.e. to s.w.; average or breadth $2\frac{1}{2}$ m. More than a third of it is cultivated, or in pasture. The isle is low and rocky, and composed of gneiss, approaching to granite and hornblende slate. The employments are agriculture and fishing. Pop. (1871) 723; (1881) 643; (1891) 522.

COLLABORATOR, n. *köl-läb'ö-rä'tër* [F. *collaborateur*—from L. *collaböräre*, to work together—from *con*, together; *laböräre*, to labor]: one who assists in labor, usually literary or scientific; frequently used in the F. form, **COLLABORATEUR**, n. *köl-läb'ö-rä-tër'*. **COLLAB'ORA'TION**, n. *-rä'shün*, united labor of two or more.

COLLAMER, *köl la-mër*, JACOB, L.L.D.: 1791, Jan. 8—1865, Nov. 9; b. Troy, N. Y.: U. S. senator. He was early taken to Burlington, Vt., supported himself by studying, graduated at the Univ. of Vt. 1810, served as a lieutenant of artillery 1812, and was admitted to the bar at St. Albans 1813. He practiced 20 years in Washington, Orange, and Windsor cos., sat for Royalton in the assembly 1821–22 and 1827–28, was a judge of the Vt. supreme court 1833–42 and 1850–54, in congress 1843–48, postmaster-gen. under Pres. Taylor 1849–50, and U. S. senator 1855–65, serving as chairman of the library committee and of that on post-offices and post-roads. He died at Woodstock, Vermont.

COLLAPSE, n. *köl-läps'* [L. *collapsus*, fallen in ruins—from *con*, together; *lapsus*, fallen]: a falling in or together, as a balloon when the gas has escaped; extreme depression of the bodily energies: V. to fall inward or together; to close by falling together. **COLLAPS'ING**, imp. **COLLAPSED'**, pp. *-läpst'*: ADJ. come to nothing; become a failure.

COLLAR, n. *köl'lër* [F. *collier*; OF. *coller*, a necklace, a collar—from *col*, the neck—from L. *collum*, the neck: It. *collo*]: an ornamental article of dress worn round the neck; that part of the harness which goes round the neck of a horse or other animal used as a beast of burden; the large gold chain worn by knights of certain orders, and civic dignitaries; in *arch.*, a ring: V. to catch hold of one by any article of dress around the neck; to roll up flesh-meat and bind it with cord. **COL'LARING**, imp. **COL'LARED**, pp. *-lërd*: ADJ. seized by the collar; rolled together, as beef or pork. **COLLAR-AWL**, a form in which the eye-pointed needle has been used for many years. It is used in sewing collars, the wax-end being passed through the material by its means, and drawn tightly by its hands. **COLLAR-BEAM**, a tie-beam uniting the breasts of a pair of rafters, to keep them from sagging or spreading. It serves as a strut, a tie, and often as a ceiling-joist for a garret story. **COLLAR-BLADES**, short segments of wood or metal which embrace the collar worn by a horse, and to which the traces are attached; called also *hames* or *haims*. **COLLAR-BONE**, bone on each side of the neck; the clavicle. **COLLAR-CHECK**, a kind of heavy woolen goods made for saddlery purposes.

COLLAR-BEAM—COLLEAGUE.

COLLAR-DAY, a day on which the knights of various orders appear at court levees wearing their collars. COLLARETTE, n. *kōl'ă-rêt'*, a little collar for wearing round the neck. COLLARINO, *kōl-lēr-ē'nō* [It.]: that part of a column which is included between the fillet and the astragal. To SLIP THE COLLAR, to disentangle one's self from a thing that binds, or from a difficulty; to get free.

COLLAR-BEAM, STRAINING-BEAM, ETC.: horizontal tie connecting a pair of rafters. Large roofs have two or more collar-beams.

COL'LARING: cylindrical part of the capital in the Doric and Tuscan orders; often termed the neck.

COLLATE, v. *kōl-lāt'* [L. *collātus*, brought or carried together—from *con*, *lātus*, carried]: to bring or lay together for the purpose of comparison; to bring together and compare MSS. or books; to gather and place in order; to place in a benefice, said of a bishop when he is the patron. COLLA'TING, imp. COLLA'TED, pp. COLLA'TOR, n. *-tēr*, one who. COLLA'TABLE, a. *-tă-bl*. COLLA'TION, n. *-lă'-shŭn* [F. *collation*; OF. *collacion*—from L. *collātiōnēm*]: the comparing of MSS. or books with others of the same kind for correction of errors, etc.; presentation to a benefice by a bishop or other ordinary where he has right of patronage. When a bishop *confers*, or collates to a benefice, presentation and institution both are comprised in the act of collation; a repast between full meals to which originally every one brought his share. COLLA'TIVE, a. *-lă'tiv*, pertaining to an advowson when the bishop is the patron.

COLLATERAL, a. *kōl-lăt'er-ăl* [mid. L. *collateralis*—from L. *con*, together; *lātus*, a side]: side by side, or on the side; running parallel; happening or coming together in connection with an event, as *collateral circumstances*; in addition to, or over and above: not direct or immediate; descended from a common ancestor or stock—opposed to *lineal*: see CONSANGUINITY: SUCCESSION. COLLAT'ERALLY, ad. *-lŭ*. COLLAT'ERALNESS, n. COLLATERAL SECURITY, an additional and separate security for the performance of an obligation, or the implement of a bond or covenant.

COLLA'TION, in the Law of England: the act of bringing a portion advanced by the father to a son or daughter into *hotch-pot* (q v.), in order that the beneficiary may have an equal share of his personal estate at his death.

COLLE. *kōl'lā*: town of Italy, on the Elsa, about 22 m. s.s.w. of Florence. A steep ridge separates the town into two portions, the lower of which is occupied chiefly by manufactories. C. has a cathedral and castle, and its paper manufacture is extensive. Wine, olive-oil, and silk are produced in the environs. Pop. 5,000.

COLLEAGUE, n. *kōl'lēg* [F. *collègue*—from L. *collēga*, a partner in office: Iceî. *lag*, society: It. *collega*]: a partner or associate in the same office or employment—never used of partners in trade or manufactures: V. *kōl-lēg'*, to join or unite with in the same office or for the same purpose. COLLEAGU'ING, imp. COLLEAGUED', pp. *-lēgd'*. COL'LEAGUESHIP, n.

COLLECT.

COLLECT, n. *kǒl'lēkt* [mid. L. *collecta*, contributions in money, an assembly for prayer—from L. *collec'tus*, gathered together—from *con*, together; *lectus*, gathered, selected: OF. *collector*, to collect money—from mid. L. *collectārē*, to collect money]: a prayer gathered out of Scripture; a short prayer adapted for a particular occasion: V. *kǒl-lēkt'*, to gather separate persons or things into one body or place; to gather money or revenue; to accumulate, as snow or water; to assemble or bring together; to gain by observation or research; to infer as a consequence; to recover from surprise. **COLLEC'TING**, imp. **COLLEC'TED**, pp.: **ADJ.** cool; self-possessed. **COLLEC'TIBLE**, a. *-lēk'tī-bl*, that may be gathered. **COLLEC'TION**, n. *-shŭn*, the act of gathering; an assemblage or crowd; contributions in money; a sum gathered for a charitable purpose; a book of extracts; an accumulated store of objects of interest; a selection of works in painting or sculpture not large enough to form a gallery; a selection of prints without regard to number. **COLLEC'TEDLY**, ad. *-lŭ*. **COLLEC'TEDNESS**, n. a composed state of mind; recovery from surprise. **COLLEC'TIVE**, a. *-tīv*, gathered into a mass, sum, or body; aggregate; expressing a number or multitude united as one. **COLLEC'TIVELY**, ad. *-lŭ*, in a general mass or body; not individually; in the aggregate. **COLLEC'TIVENESS**, n. **COLLEC'TOR**, n. *-lēk'tēr*, one who collects or gathers; a tax-gatherer; a high official under the E. India Company. **COLLEC'TORSHIP**, n. the office; also **COLLEC'TORATE**, n. *-āt*. **TO COLLECT ONE'S SELF**, to recover from surprise or embarrassment.—**SYN.** of 'collect v.': to gather; muster; assemble; aggregate; amass; infer; deduce;—of 'collection': assembly; assemblage; group; meeting; company; crowd; heap; mass; compilation.

COLLECT: name of uncertain origin, given to certain short prayers in different church liturgies. It is from the Latin *colligere*, as some ritualists think, because of the comprehensive brevity of such prayers, the matter of the epistle and gospel, e.g., being gathered up, or *collected*, into the C. for the day, as appears in the English Book of Common Prayer. Others, with more probability, ascribe to the name an origin from an ancient practice of the chief minister collecting into a single brief prayer at the end of the service the previous devotions of the people; accordingly, one of the service-books of the anc. Catholic Church was called *Collectarium*, as containing such prayers. Of the collects used in the liturgy of the Church of England, some are taken from the old Roman Missal, and were probably the composition of St. Jerome; others are of more ancient and primitive times, and a few were composed at the Reformation. They begin with commemorating some attribute of God, or pleading some infirmity or necessity of man, and end with a simple petition based thereupon. The practical teaching or pervading spirit of a church may to a great extent be seen in its collects. For every Sunday, there is a proper C., with corresponding epistle and gospel; and this C. stands for every day in the following week, except in the case of festivals or fasts and their eves or vigils, which have collects of their own.

COLLECTANEA—COLLECTIVISM.

COLLECTANEA, n. plu. *kõl' lěk tã' ně-ũ* [L., things gathered together—from *con*, *lectus*, gathered]: a collection of selections from various authors. **COLLECTA'NEOUS**, a. *-ně-ũs*, consisting of selections gathered from a variety of sources; gathered.

COLLECTIONS AT CHURCHES, in Scotland: contributions gathered at all churches—either at the church-doors before the service, or in the church after it—were, till a comparatively recent period, the principal fund for the support of the poor. By the Poor-law Act (8 and 9 Vict., c. 83) it is enacted (s. 54) that in all parishes in which it has been agreed that an assessment shall be levied for the relief of the poor, all moneys arising from the ordinary church collections shall in future belong to, and be at the disposal of, the kirk-session, under certain provisions. The collections at dissenting meeting-houses, under which denomination Episcopal chapels are included, are entirely at the disposal of the congregations.

In England there are no regularly imposed collections at churches as in Scotland. The alms collected during the offertory in churches, and in chapels, are free-will gifts for beneficence, or for the purposes of the congregation. See **OFFERTORY**.

COLLECTIVISM, n. *kõl-lěk'tiv-izm*, [Eng. *collective*, and term. *-ism*]: socialistic theory according to which the state, i.e., the whole people as a social and political organism and not as individuals, holds centralized in itself all directive, social, and industrial functions, and in particular controls the means of production, viz., land and machinery; thus C. is the opposite of the existing order of individualism in property and in all productive enterprise. As C. does not deny the right of property except in land and in such means of production as are monopolizable, it is in effect synonymous with socialism (q.v.). See also **COMMUNISM**: **FOURIERISM**.

COLLEGE.

COLLEGE, *kōl'lēj* [F. *collège*, a college, a high school—from L. *collēgiūm*, persons united by the same calling—from *con*, together; *lego*, I choose: It. *collegio*]: an assemblage or society of men possessing certain powers and rights, and engaged in some common employment or pursuit; a number of persons engaged in study, as College of Surgeons; the building where they meet or reside; a university. **COLLE'GIAN**, n. *-lē'jī-ăn*, a member of, or student in, a college. **COLLE'GIATE**, a. *-ăt*, containing a college; instituted after the manner of a college. **COLLEGIATE CHURCH**, in England, a church built and endowed for a corporate body, having dean, canons, prebends, etc., like a cathedral, but not a bishop's see; so called from having a college or chapter, consisting of a dean and canons, attached. The service is or should be the same as in a cathedral. They are under the jurisdiction of the bishop of the diocese in which they are situated, and he exercises visitorial powers over them. Those remaining in England are Westminster, Windsor, Wolverhampton, Heytesbury, Middleham; also Brecon in Wales, and Galway in Ireland. Ripon, Manchester, and Southwell have been constituted the cathedrals of new dioceses. Some churches called collegiate (as Beverley) have no chapters. In Scotland, C. C. denotes a church with two or more ministers of equal rank. In the United States, it denotes a group or college of two or more congregations united as one church organization, with ministers equal in station and functions.

COL'LEGE: in old Roman signification, a C. signified any association of persons for a specific purpose: in many respects it was synonymous with *corpus*, a body or collection of members, a corporation—with *universitas*, a whole as contrasted with its parts—and with *societas*, a company or partnership, as opposed to all the members of which it was composed. A. Roman C. had a common chest, and it could sue and be sued in the name of its manager (actor or syndicus), like a modern corporation. It required also to be incorporated by some sort of public authority, springing either from the senate or the emperor. A C. could not consist of fewer than three persons, according to the well-known maxim, 'three make a college' (Dig. 50, tit. 16 l. 85). Some of these colleges were for purely mercantile purposes, but there were others with religious objects, such as the *Collegia Pontificum Augurum*, etc., which thus made a sort of approach to a C. in the modern sense. In modern times, a C. is an incorporation, company, or society of persons, joined together generally for literary or scientific purposes, and frequently possessing peculiar or exclusive privileges: see **PHYSICIANS**, **COLLEGE OF: SURGEONS**, **COLLEGE OF**. Very often in England a C. is an endowed institution connected with a university, having for its object the promotion of learning. In this relation, a C. is a sub-corporation, i.e. a member of the body known as the university. The constitution of a C. in this, its most general and proper sense, depends wholly on the will of the founder, and on the regulations which may be imposed by the visitor (q.v.) whom he has appointed. For an account of C. in this

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sense, see UNIVERSITY: OXFORD: CAMBRIDGE: PARIS: EDINBURGH: etc. In Scotland and in America the distinction between the C. as the member and the university as the body has been lost sight of, and we consequently hear of the one and the other indiscriminately granting degrees, a function which in the English and in the original European view of the matter belonged exclusively to the university: see DEGREE. Where there is but one C. in a university, as is the case in all the universities of Scotland the two bodies are of course identical, though the functions which they perform are different. In Germany there are no colleges in the English sense, and though the universities in that country perform precisely the same functions as in Scotland the verbal confusion between the C. and the university is avoided by the latter performing the functions of both in its own name, as two separate parts of its proper duties. In France C. has a meaning totally different from that which we attach to it; it is a school corresponding, however, more to the gymnasium (q.v.) of Germany than to the grammar-school of England and the United States. All the colleges are placed under the University of France, to which the centralizing tendencies of that country have given a meaning which also differs widely from that which the term university bears in England. see UNIVERSITY OF FRANCE: COLLEGE DE FRANCE.

COLLEGES IN THE UNITED STATES.—At the close of the revolutionary war there were 7 institutions of learning in the United States classed as colleges; Harvard, William and Mary, Yale, College of N. J., Univ. of Penn., Columbia, and Brown University. In 1870 the number had increased to 324, which had 3,112 members of faculty, and 55,073 students, of whom 8,519 were females. Ohio led in the number of colleges 33, followed by N. Y., 26; Penn., 24; Ill., 23; Mo., 17; Tenn. and Ind., each, 15; Iowa, 14; Cal., 13; Tex., 12; Wis., 10; the only states and territories without any being Col., Fla., and Nevada. Of the total 261 were under the control of some religious denomination, the Rom. Cath. Church leading with 54, the Bapt. had 38, Meth. Episc., 35; Presb., 25; Congl., 19; Lutheran and Prot. Episc., each, 16; 26 denominations were thus represented. There were also 111 commercial and business colleges with 517 instructors, and 22,468 students.

At the end of the year 1900-1 there were 137 colleges and universities for men and 336 for men and for both sexes. The former had 24,955 undergraduate students, and the latter 36,170 men and 19,959 women students. The professors and instructors aggregated 12,968 men and 1,940 women. Combining the preparatory, collegiate, graduate, and professional departments there were 48,361 men and 30,709 women students. The combined institutions had 488 fellowships; 8,132 scholarships; 8,478,624 volumes in the libraries, valued at \$11,792,780; scientific apparatus, \$17,482,924; and grounds and buildings, \$391,230,784; a gain of \$30,636,189 over the amount for the preceding

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year. The endowment funds amounted to \$177,127,965, benefactions, \$18,040,413, and the total income, excluding benefactions, \$33,259,612. Of the 473 universities and colleges for men and for both sexes, 164 had no endowment funds, 136 had less than \$100,000, 122 between \$100,000 and \$500,000, 21 between \$500,000 and \$1,000,000, and 30 over \$1,000,000.

The *Report of the U. S. Commissioner of Education* for 1900-1 showed the number of theological schools to be 150, with 988 professors and instructors and 7,567 students; law schools, 100, with 1,106 professors and instructors and 13,642 students; regular medical schools, 123, with 3,876 professors and instructors and 24,199 students; eclectic medical schools, 10, with 237 professors and instructors and 1,446 students; homeopathic medical schools, 21, with 639 professors and instructors and 1,812 students. There were 119 colleges for women, with 1,803 professors and instructors and 18,856 students. The number of degrees conferred by the faculties of liberal arts, science, philosophy, art, theology, medicine, and law, 1900-1, was 16,513.

In the United States the distinction between a university and a college in the European sense has little observance. Here, by virtue of legislative authority expressed in its charter, the college confers degrees as well as the university, while abroad that function belongs exclusively to the latter. Again, many institutions assume or have granted them the nomenclature of college or university, while they are in fact simply schools of a higher grade than the ordinary private and public ones. In the European sense a university is superior to a college, since it may be composed of one or several of the latter; here many institutions that would be classed elsewhere as colleges blossom from the start with the name of universities. Brown, chartered 1764 and Penn. 1755, took the name of university at once, while Harvard, 1650, William and Mary, 1693, Yale, 1701, New Jersey, 1748, Rutgers (N. J.), 1770, Columbia, 1787, and others took the name of college, and, excepting Harvard and Yale (now officially universities), are still so known. Then, too, in the United States, many of the larger institutions, such as Harvard, Yale, and Columbia, have independent departments in which science in its various branches, law, and medicine are taught with as much formality constitutionally as if they were separate colleges, and, though officially known as scientific, or law, or medical schools, graduate and confer degrees in the same manner as an English, Scotch, German, or French university. Further still, a goodly number of institutions have been legislated into existence since the civil war which legally bear the name of agricultural, or industrial, or mechanical college, and sometimes a combination of all, and derive their support exclusively from national or state appropriations, but are far removed from the European college idea, and even from that of the home college departmental school.

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COLLEGES (OR COLLEGIATE INSTRUCTION) FOR WOMEN.

—The first institution opened in the United States for the exclusive education of women was the Moravian Seminary at Bethlehem, Penn., established 1749, and still (1893) in successful operation; and the first attempt in any high grade of coeducation of the sexes was made by Pres. Dwight in his Greenfield (Conn.) School 1783. Since then the labors of Miss Pierce at Litchfield, Conn. (1792), Miss Emma Willard at Troy, N. Y. (1816), Miss Catherine E. Beecher at Hartford (1822), Miss Mary Lyon at South Hadley, Mass. (1837), with the gifts of Mrs. Harriet L. Packer and Matthew Vassar, have been exceedingly potent in providing facilities for the superior education of women. In 1870, there were 205 institutions in 26 states for the superior instruction of women exclusively, with 2,120 instructors and 24,613 students. New York led with 18, Penn. had 17, Ga. 16, Ohio 15, Ky. 13, Va. 12, Mo. and N. C. each 11, and 8 states only had 1 each.

In 1890, 106 years after girls were first admitted to the public schools of Boston, there were 179 institutions that reported, with 2,229 instructors and 24,851 students. Their libraries contained a total of 328,431 vols.; the value of grounds, buildings, and apparatus aggregated \$14,250,763; the productive funds amounted to \$2,267,552; income therefrom \$185,192; and the receipts of the preceding year from tuition-fees were \$1,224,820. Of the total institutions 125 were of a religious denominational character. About two-thirds of the whole number were authorized by law to confer degrees, and nearly all observed the four-year course of study. They were officially classified under the names of colleges, seminaries, and academies. Oberlin (O.) College was the first exponent of coeducation, opened 1834. One of the earliest distinctive women's colleges was Mount Holyoke (nominally a seminary), Mass., opened 1837; followed by Elmira, N. Y., 1852, and Vassar 1865—Vassar being the first completely equipped and generously endowed. Wellesley (Mass.) College was opened 1875; Smith College, Northampton, Mass., 1875; Bryn Mawr, Penn., 1885; the Harvard Annex, 1879; Evelyn, N. J., 1887; Woman's, Baltimore, 1888, and Barnard, N. Y., 1889. Besides these, women are privileged to study and receive degrees in Boston, Cornell, Michigan, Johns Hopkins, Chicago, Leland Stanford, and many other universities; in Buchtel (O.), Adelbert (Cleveland), and many other colleges; to take the pharmaceutical course at Vanderbilt Univ., the graduate course at Yale Univ., and scientific at Smithsonian Institution. There are also two homeopathic colleges for women in Chicago, one eclectic and one allopathic in Philadelphia, one homeopathic in Cleveland, and a medical college and hospital, and the college of the infirmary for women in New York. The institutions under the direct supervision of religious denominations are in the main colleges in name only, partaking more of the characteristics of an advanced seminary or academy. The demand for the opportunities of coeducation has in late years been quite general and certainly persistent. In New

COLLEGE AND UNIVERSITY SETTLEMENTS.

York Columbia University formally incorporated into its general system the Barnard "annex," 1900, placing young women on an absolute equality with young men. The attempts to induce the trustees to concede equal privileges had previously failed, but they had been as good seed sown. Barnard College was founded 1889, and that year had 14 students; at the beginning of the second year the students numbered 20. A gift of \$100,000 was made to the building fund of this college 1892, conditioned on procurement of a site near the new site of Columbia Univ. At that time the trustees of Barnard had \$35,000 applicable to that purpose, and \$100,000 was available from the Fayerweather bequest. The subject of the higher education of women has attracted widespread interest for many years; and the advances made in the United States have been studied by special committees from many of the states of Europe and South America. See NEWNHAM COLLEGE: GIRTON COLLEGE: VASSAR COLLEGE: SMITH COLLEGE.

COLLEGE AND UNIVERSITY SETTLEMENTS: institutions planted in the poverty districts of cities for neighborhood charitable work by students, whose residence in the institution is mostly during vacation time. In many instances the plan has been enlarged to include graduates and other workers. The origin of the movement may be traced to the employment of young Cambridge graduates during their spare hours in Frederick Maurice's Working Men's Coll., established 1830. The more immediate beginning was made by Arnold Toynbee (after whom some of the institutions have since been named), who spent his summer vacation 1875 in charitable work in the Whitechapel district, London, co-operating with the Rev. S. A. Barnett of St. Jude's. In 1883, at Mr. Barnett's suggestion, 50 Oxford men took a vacant public house in the same district. They had been preceded 1867 by a wealthy Oxford graduate, Edward Denison, who lived and worked among the poor of the Rev. John Richard Green's parish. In 1885 the Toynbee building was erected. With the temporary residents, some of whom are graduates, are associated men and women of the city who give aid, as in teaching. In the same year, 1885, was established Oxford House, Bethnal Green, E. London, with some features more distinctly religious, and controlling various clubs, such as a workingmen's (1,500 members), a young men's, and a boys' club. The Women's Univ. Settlement, Southwark, London, carried on by a number of women's colleges, was begun 1887; the Cheltenham Ladies' College Settlement, Mayfield House, Bethnal Green, 1889. Similar institutions have been founded in other cities of the United Kingdom, e.g., in Glasgow one under the presidency of Prof. Drummond, and a Toynbee house under Prof. Caird; and the Free Church Settlement in Edinburgh.

Near the beginning of 1887 Dr. Stanton Coit took a tenement, 146 Forsyth st., New York, formed clubs of boys, and subsequently of girls, with assistance of 'uptown' young ladies, and of college graduates; this establishment

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came under the direction of the University Settlement soc. formed 1891, May 14 (Seth Low, LL.D., president). The College Settlement, 95 Rivington st., for girls and boys, was organized 1889 by three graduates of Smith Coll. Hull House, 335 S. Halsted st., Chicago, was opened the same year; also recently, the Andover House, 6 Rollins st.; another house in Poplar st.; Dorothy Hall in Warrenton st.; and the Women's College Settlement, Tyler st., all in Boston; and a like enterprise in St. Mary's st., Philadelphia.—The great benefit of the movement is doubtless the personal contact and influence of educated, refined persons, living among those who have been reached distantly, if at all, by charity agents and city missionaries: in this personal association with the poor and the degraded, the example of the Founder of Christianity is followed. But, the work has taken a wide practical scope, including sanitary matters, sewing and cooking classes, day nurseries, kindergartens, diet kitchens, lectures with experiments, drawing classes, boys' natural history clubs, reform clubs, savings funds or banks, singing classes, concerts, reading rooms, libraries, gymnasiums, social gatherings, country excursions, co-operative boarding for working girls; and, as mentioned in the Chicago work, means to preserve the poor from the rapacity of chattel-mortgage sharks.

COLLÈGE DE FRANCE: originally a *Collège de Trois Langues* merely, founded by Francis I., 1530, is now a very important educational institution giving instruction over a very wide field of literature, history, and science. It is independent of the University of France (q.v.), is directly under the minister of public instruction, and is supported by the govt. As in the Sorbonne (q.v.), the lectures are gratuitous; and for the most part are designed to attract auditors older than ordinary university students. The college comprises two faculties, one literary, one scientific; each has about 20 professors. Among the professors have been some of the most distinguished scholars and scientists in France, such as Renan, Laboulaye, Gaston de Paris, in the literary department; and Brown-Séquard in the science division. Among the subjects discussed are political economy, Assyrian and Egyptian archeology, Arabic, Slavonic literature, French literature, physiology, anatomy, and embryology.

COLLEGE FRATERNITIES, or GREEK-LETTER SOCIETIES: orders composed of alumni and students established in many colleges in the United States, and in two in Canada. Nearly all are professedly secret, having private hand-grips, secluded halls, and elaborate rituals; their Greek letter names are initials of mottoes; some (called local) are confined to single colleges, others have branches styled chapters or charges and (usually) distinguished by Greek letters; their badges are commonly breast-pins in forms of lozenges, crosses, shields, letter-monograms, etc., distinctively engraved or enamelled. ΦBK , prototype of these fraternities, was founded 1776, Dec. 5, at the Coll. of William and Mary; proceeded to Yale and Harvard 1780, became non-secret 1832, was reorganized 1881, and is now

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an honorary order (its badge, a rectangular watch key); has had 41 chapters and 16,000 members, and admits (as a rule) the first third in scholarship of each senior class. Formalism of ΦBK , with the defect for social purposes of the literary societies (of which Linonia and the Brothers in Unity of Yale, Philomathean of Union, and Philolexian of Columbia, were types), led, 1825–33, to the establishment for social and literary purposes of several secret orders (pioneers of the present system); KA , $\Sigma\Phi$, $\Delta\Phi$, and $\Psi\Upsilon$, at Union Coll., and $\Lambda\Delta\Phi$, at Hamilton Coll., which, with $X\Psi$, ΔKE , $Z\Psi$, $\Delta\Psi$, and $\Theta\Delta X$, are called ‘Eastern’ societies. The following are the chief intercollegiate secret fraternities, with date and place of origin, and number of active chapters: KA (1825, Union, 5); $\Sigma\Phi$ (1827, Union, 8); $\Delta\Phi$ (1827, Union, 13); $\Lambda\Delta\Phi$ (1832, Hamilton, 20); $\Psi\Upsilon$ (1833, Union, 19); $B\Theta\Pi$ (1839, Miami, 60); $X\Psi$ (1841, Union, 16); ΔKE (1844, Yale, 34); $Z\Psi$ (1846, N. Y. Univ., 21); $\Delta\Psi$ (1847, Columbia, 9); $\Theta\Delta X$ (1847, Union, 22); $\Phi\Gamma\Delta$ (1848, Jefferson Coll., 45); $\Phi\Delta\Theta$ (1848, Miami, 68); $\Phi K\Sigma$ (1850, Univ. of Penn., 12); $\Phi K\Psi$ (1852, Washington Coll., 34); $X\Phi$ (1854, Princeton, 22); ΣX (1855, Miami, 43); ΣAE (1856, Univ. of La., 46); $\Delta T\Delta$ (1860, Bethany, 38); KA Southern (1865, Univ. of Va., 28); $AT\Omega$ (1865, Va. Milit. Inst., 46); $K\Sigma$ (1867, Univ. of Va., 34); ΣN (1869, Va. Milit. Inst., 38).— $\Delta\Upsilon$, non-secret, with 28 active chapters, has grown out of an anti-secret soc. formed at Williams 1834. Of the above fraternities KA has fewest members (1,100), ΔKE most (11,000); $\Psi\Upsilon$ has 7,700, $\Lambda\Delta\Phi$ 7,200.—Of local fraternities KKK (1842, Dartmouth) and $\Phi N\Theta$ (1837, Wesleyan) are types. $\Phi\Delta\Phi$ and ΔX are law-school fraternities; $N\Sigma N$ is a soc. of medical students. There are also Greek-letter societies of women. Besides, there are class societies, general or local, of which those in the senior class at Yale are the most distinguished. The older fraternities are exclusive, publish costly catalogues, own many fine chapter houses ($\Psi\Upsilon$ alone having 14), maintain club-houses in New York and other cities, have a multitude of distinguished alumni, and are commended by college presidents familiar with their work. ΦBK refused to admit students of the scientific branches, so in 1885 there was founded at Lehigh University a fraternity known as $TB\Pi$, on the same lines as ΦBK to “foster a spirit of liberal culture in the technical and scientific schools of America.” The following year $\Sigma\Psi$ was founded at Cornell with the same object. Both of these fraternities are prosperous, and although rivals have never proved antagonistic.

COLLEGE OF ARMS: see **HERALD’S COLLEGE**.

COLLEGE OF JUSTICE: see **COURT OF SESSION**.

COLLEGE POINT: village of Queens co., N. Y., on Long Island Sound, and on a branch of the Long Island railroad, 3 m. n. of Flushing, 11 m. n.e. of New York. It has some manufactures, especially of india-rubber goods. Pop. (1870) 3,652, (1880) 4,192; (1890) 6,127.

COLLEGIANTS, *kōl-lē’jī-ants*: sect formed in Holland 1619, which called its assemblies colleges; also named

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Rhinsbergers, from their meeting twice a year for communion at Rhinsberg, near Leyden. They aimed at a return to primitive Christian liberty, disowned human creeds and a professional ministry, and admitted any who acknowledged the divine authority of the Scriptures, and endeavored to live after their teachings. They baptized by immersion, laid no stress on any form of church govt., and conducted their meetings by the voluntary participation of those attending. They bore some resemblance to the modern Plymouth Brethren.

COLLEMBOLA, n. *köl-lēm'bō lă* [Gr. *kolla*, glue; *embōlos*, a sharp-pointed projection]: an order of apterous insects furnished with an adhesive ventral process.

COLLENCYMA, n. *köl-lēn'kī-mă* [Gr. *kolla*, glue, *eng'-chuma*, a tissue]: in *bot.*, the substance lying between and uniting cells; a kind of cellular tissue with thickened and swollen walls.

COLLES, *köl'lis*, **CHRISTOPHER**: abt. 1738–1821; b. Ireland: engineer. He was befriended and educated by Bp. Pococke, after whose death, 1765, he came to America, and lectured at Philadelphia on pneumatics 1772, and in New York on inland lock-navigation 1773, and on gunnery 1775. He proposed to build a reservoir for New York 1774, and to bring in water by pipes; was instructor in artillery 1775–77; surveyed the Mohawk to Wood creek, and was the first to suggest a canal from Lake Ontario to the Hudson, memorializing the legislature on this subject 1784, and issuing a pamphlet 1808 on inland navigation. He described the roads of N. Y. 1789, and is said to have constructed the first American steam-engine. C. had the esteem of Hamilton and Jefferson, but his many useful labors barely supplied the means of subsistence. He made bandboxes, mouse-traps, paper hangings, proof glasses, and astronomical calculations, tested the specific gravity of imported liquors, constructed and worked the telegraph on Castle Clinton in the war of 1812, and was in his later days supt. of the Acad. of Fine Arts. He lived in New York from 1796, and died there.

COLLET, n. *köl'lēt* [F. *collet*, a collar—from F. *col*, the neck—from L. *collum*, the neck]: the part of a ring in which a precious stone is set; the neck or part of a plant that lies between the root and the stem.

COLLETTERS, n. plu. *köl-lē'těrz* [Gr. *kollētos*, glued or cemented together—from *kollē*, glue]: in *bot.*, glandular hairs on the leaves of a bud producing 'blastocolla.'

COLLETIC, a. *köl-lēt'ik* [Gr. *kolletikos*, sticky, gluey—from Gr. *kollē*, glue]: of the nature of glue; gluey.

COLLEY, n. *köl'li*: a shepherd's dog: see **COLLY**.

COLLIDE, v. *köl-lid'* [L. *collidēre*, to dash together—from *con*, together; *lādēre*, to strike forcibly: It. *collidere*]: to strike or dash against each other. **COLLI'DING**, imp.: N. a collision. **COLLI'DED**, pp. **COLLISION**, n. *köl-liz'h'ün*, which see.

COLLIER, n. *köl'yér* [OE. *col*, coal, and postfix *er* (see

COAL)]: a coal-miner. COLLIERY, n. *köl'yér-î*, the place where coal is dug.

COLLIER, *köl'yér*, JEREMY: 1650, Sep. 23—1726, Apr. 26; b. Cambridgeshire, Eng.: noted nonjuring clergyman. He went to Cambridge 1669, and took his degree M.A. 1676. At the revolution 1688 he plunged into the stormy waters of controversy, his foeman being Burnet, afterward Bp. of Salisbury. For a publication of his at this time, entitled *The Desertion Discussed*, which gave offense to the government of William, he was sent to Newgate, where he remained several months. On his release, he rushed anew into the wars of party, and distinguished himself therein by the publication of several controversial works. Suspected of being a partisan of the Stuarts, he was again arrested 1692, and imprisoned for a short time in the King's bench. From this period his life was a scene of perpetual literary strife, government being the principal object of his attack. He died in London. C. wrote many books, including the *Ecclesiastical History of Great Britain*; but the work by which he is best known, is his *Short View of the Immorality and Profaneness of the English Stage*, 1698. Congreve and Farquhar came to the rescue of their craft, to the great delight of C., who was never happier than when wielding the satirical whip, and who had no objection to encounter a couple of opponents at a time. The combat lasted 10 years, and at the close, C. remained master of the field. His strictures on the stage were needed at the time, and his writing materially aided its subsequent purification.

COLLIER, J. PAYNE: 1789—1883, Sep. 17; b. London: Shakespearian critic and commentator. He became a parliamentary reporter on the staff of the *Morning Chronicle*, and afterward edited the *Evening Chronicle*. It was in the pages of the former that his first essays in the field of Elizabethan literature appeared. In 1820 he published *The Poetical Decameron*; 1825–27 a new edition of Dodsley's *Old Plays*; and 1831 his best work, a *History of English Dramatic Poetry to the Time of Shakespeare, and Annals of the Stage to the Restoration*. This opened to him two valuable sources of information, the libraries of Lord Francis Egerton and the Duke of Devonshire, the latter appointing him his librarian. His next work was a *Bibliographical and Critical Catalogue*. From 1835–39 he published *New Facts regarding the Life and Works of Shakespeare*; followed by an edition of Shakespeare. His next work was the famous volume, *Notes and Emendations to the Text of Shakespeare's Plays, from early manuscript Corrections in a Copy of the Folio of 1632, in the Possession of J. P. Collier*. This publication excited great commotion in the literary world; opinion was divided, and the *Emendations* were furiously applauded or furiously assailed. It was in time generally admitted that many of them were just corrections of typographical errors; that many, in cases where the author's meaning was doubtful, displayed very remarkable ingenuity; but that others darkened texts which, save to a commentator, were transparent enough. Later, it was

even alleged by some that C. had himself written the marginal emendations in a feigned hand. In 1865 appeared his *Bibliographical Account of Rare Books*. In 1866 he commenced a series of reprints of early English poets and pamphleteers. His later works include his *Book of Roxburghe Ballads*, *Shakespeare's Library*, *Extracts from the Registers of the Stationers' Company*, *Memoirs of Actors of Plays of Shakespeare*, and *Autobiographical Recollections*. He died at Maidenhead.

COLLIGATE, v. *kōl'li-gāt* [L. *colligātus*, bound together—from *con*, together; *ligo*, I bind]: to bind or tie together. **COL'LIGATING**, imp. **COL'LIGATED**, pp. **COL'LIGA'TION**, n. *-gā'shūn*, act of binding together; that process in inductive philosophy by which a certain number of facts are brought together for generalization.

COLLIMATION, n. *kōl'li-mā'shūn* [L. *collinēārē*, to direct in a straight line—from *con*, together; *linēā*, a line: It. *collimare*, to aim]: the line of sight in the direction of any object; in the *telescope*, the line of sight passing through the centre of the object-glass and the centre of the cross-wires placed in the focus. **COL'LIMA'TOR**, n. *-tēr*, instrument designed for fixing a definite direction in space, by the emergence of parallel rays from a material object placed in the focus of a fixed lens. The principle is believed to have been first employed by David Rittenhouse, famous American astronomer and mathematician, 1785; and the instrument was invented by Capt. Kater. It is in two forms. The horizontal C. is a small telescope fastened to a plate of iron which floats on a quantity of mercury in a basin, and has a wire crossing its focus. The vertical C. is a receptacle of mercury to the surface of which a telescope is directed at the point where a reflection of the wire crossing the focus is thrown on the mercury. In both forms these cross wires are illumined by a lamp so placed that its rays are parallel. The rays being brought to a focus by the object glass of any other telescope will produce the likeness of any celestial object in their direction. A reflected image of the cross wires is thus obtained, indicating accurately the vertical position of the telescope. The place of the horizontal or zenith point on a vertical scale is thereby quickly determined without the use of a plumb-line or a spirit-level.

COLLIN, or **KOLIN**, *kō-lēn'*: town of Bohemia, on the left bank of the Elbe, about 39 m. e.s.e. of Prague. It has manufactures of sugar, manure, and oil. In the vicinity was fought, 1757, the famous battle in which Frederick the Great was defeated by the allied Austrian and Saxon armies under Marshal Daun. Pop. 11,332.

COLLINGWOOD, *kōl'ing-wūd*: in Australia; n.e. suburb of the city of Melbourne. Pop. abt. 20,000.

COLLINGWOOD: town in Simcoe co., Ontario, Canada, on the s. shore of the great inlet of Lake Huron, called Georgian Bay. C. is an important railway terminus, connecting the railways with the lake steamers, and has a large timber and grain trade. Pop. (1871) 2,829; (1891) 4,940.

COLLINGWOOD, CUTHBERT, Admiral Lord: 1750, Sep. 26—1810, Mar. 7; b. Newcastle-upon-Tyne. Sent to sea as a midshipman at the age of eleven, his life thenceforth, with the exception of some half-dozen years, was spent wholly on board ship. He was an intimate friend of Nelson, whom he followed up the ladder of promotion step by step, until Nelson's death left the topmast round vacant for himself. Among the great naval victories in which C. bore a prominent part, were those of Lord Howe off Brest 1794, June; of Lord Jervis off Cape St. Vincent 1797; and of Trafalgar 1805, where he held the second command. In the last-named engagement, his ship was the first to break through the line of the combined French and Spanish fleets; and after Nelson had received his death-wound, he assumed the chief direction, and completed gloriously the triumph so daringly commenced. A peerage was the reward for his gallant conduct. After several years' service in the Mediterranean, C. died at sea. He was a thorough seaman, unsurpassed by any officer in the navy, at once brave and cool, firm and mild in command.

COLLINS, *köl'inz*, ANTHONY: 1676—1729, Dec.; b. Heston, near Hounslow, Middlesex, England: free-thinking writer on religious questions. He studied at Eton, and afterward at King's College, Cambridge. In 1707 he published his *Essay concerning the Use of Human Reason*; and 1709 his *Priestcraft in Perfection*, etc., which drew strong and severe replies from the churchmen of that time. The controversy excited by this last work induced C. to write his *Historical and Critical Essay on the Thirty-nine Articles*. His next work was a *Vindication of the Divine Attributes*, in reply to the Abp. of Dublin, who asserted the compatibility of divine predestination and human freedom. C. was a philosophical necessitarian, and afterward advocated his deistic opinions more fully in his *Philosophical Inquiry concerning Liberty and Necessity* (1715). In 1711 he went to Holland, where he made the friendship of Le Clerc and other eminent *literati*. On his return to England he published his *Discourse on Free Thinking*, best known and most important of his works. In 1718 he was made treasurer for the county of Essex; and in 1724 appeared his *Grounds and Reasons of the Christian Religion*, which gave occasion to no less than 35 replies. Two years later he defended himself in his *Scheme of Literal Prophecy*, and 1727 published his last work, a reply to Dr. Roger's *Eight Sermons on the Necessity of Revelation and the Truth of Christianity*. He was a friend and correspondent of Locke, who praised 'his love of the truth for the truth's sake.' He had good repute for integrity and benevolence.

COLLINS, WILLIAM: English poet: 1721, Dec. 25—1756: b. Chichester, where his father was a hatter. He received his education at Winchester College and Oxford. In 1742, he published a small volume containing the *Oriental Eclogues*, and the *Epistle to Sir Thomas Hanmer*. Although the publication was without success, he resolved upon a literary career, and went to London 1744. Here, from

COLLINS—COLLISH.

time to time, he published other poems, chiefly odes; but misfortunes, due largely to his own indolence and irresolution, finally rendered him a prey to melancholy, which at times deepened into insanity. He died at Chichester. The poems which he has left are comparatively few; but they entitle him to a good rank among the poets of the 18th c. He was essentially a lyrical poet; and upon his odes his reputation is founded. All his best qualities appear in the well-known ode on *The Passions*—a poem which, when written, was one of the finest odes in the language. The personification of the passions is true and striking, and the variation of the measure is well adapted to the various emotions to be expressed. Among his notable pieces are the odes *To Liberty*, *To Mercy*, *To Evening*, *Ode written in 1746*, and the first part of the ode *To Fear*.

COLLINS, WILLIAM, R.A.: English artist: 1787, Sep. 18—1847, Feb. 17; b. in Great Titchfield street, London. C. early showed taste for art. In 1807 he entered the Royal Acad. as a student, and in the same year exhibited two pictures at the academy's exhibition. At first, necessity obliged him to devote himself to portraits, but money coming in rapidly, he was soon able to give his genius its bent; and his children swinging on gates, his children gazing in delighted wonderment on the newly-discovered nest, his coast-scenes, his groups of prawn-fishers, his shrimpers on the ebb'd sea-beach, drew admiring eyes as they hung on the academy walls, and brought remunerative prices. C. was elected R.A. 1820. In 1836 he visited Italy for nearly two years, studying the great masters, and sketching monks and peasants, and groups of bronzed children. In 1839 he sent to the acad. several Italian pictures, which were greatly admired. His attempts in another direction—*Our Savior with the Doctors in the Temple* (exhibited 1840), and *The Two Disciples of Emmaus* (1841)—were not very successful, and he wisely fell back on his green fields, his sea-beaches, his rustics, and his children at their games. He died in London.

COLLINS, WILLIAM WILKIE: novelist: 1824, Jan. 1—1889, Sep. 23; b. London; son of William C. He was educated for the bar, but never practiced, and published his first book—a life of his father—1848. His works, several of which were dramatized, include *Antonina* (1850); *Basil* (1852); *Hide and Seek* (1854); *After Dark* (1856); *The Dead Secret* (1857); *The Queen of Hearts* (1859); *The Woman in White* (1860); *No Name* (1862); *Armada* (1866); *The Moonstone* (1868); *Man and Wife* (1870); *Poor Miss Finch* (1872); *The New Magdalena* (1873); *The Law and the Lady* (1875); *Agnes Warlock* (1875); *Two Destinies* (1876); *The Haunted Hotel* (1878); *The Fallen Leaves* (1879); *Jezebel's Daughter* (1880); *The Black Robe* (1881); *Heart and Science* (1883); *I Say No* (1884); *The Evil Genius* (1886); *The Guilty River* (1886); *The Legacy of Cain* (1888); and *Blind Love* (1889).

COLLISH, n. *kōl'ish*: a tool to polish the edge of a sole, in shoe-making.

COLLISION—COLLODION.

COLLISION, n. *kōl-līzh' ŭn* [F. *collision*—from L. *collis-ŭnēm*, a dashing or striking together (see **COLLIDE**)]: the act of striking together of two hard bodies; opposition; interference. **COLLISIONS OF VESSELS**: see **NAVIGATION LAWS**.—**SYN.**: clashing; conflict; encounter; opposition.

COLLOCALIA, n. *kōl-lō-kā' lī-a* [Gr. *kollos*, glue; *kalia*, a hut, a bird's nest]: genus of birds, family *Hirundinidæ* (swallows). *Collocalia esculenta* is the edible or esculent swallow, or edible-nest swift, which receives both its Latin and its English specific name from the fact that its nest, made mainly of a glutinous secretion from the glands of its mouth, is eatable: see under **BIRD**.

COLLOCATE, v. *kōl' lō-kāt* [L. *collocātus*, prt or set in a place—from *con*, together; *loco*, I set or place: It. *collocare*]: to station. **COL'LOCATING**, imp. **COL'LOCATED**, pp. **COL'-LOCA'TION**, n. [F.—L.] *-kā'shŭn*, the act of placing.

COLLODION, n. *kōl-lō' dī-ŭn* [Gr. *kollōdēs*, gluey, viscous—from *kolla*, glue; *eidos*, resemblance]: a solution of gun-cotton in alcohol and sulphuric ether, used in photography—spread over glass, it leaves a very thin film on which the picture is taken; also used in surgery, leaving a thin skin-like film over wounds, which is impervious to air. **COLLINE**, common gelatine, or glue (q.v.). **COL'LOID**, n. *-loyd*, in chem., any compound having a gelatinous appearance: **ADJ.** resembling glue or jelly: **N.** applied to uncrystallizable liquids. Starch, gum, albumen, and gelatine are examples of *colloids* as distinguished from *crystalloids*. In *geol.*, applied to partly amorphous minerals.

COLLO'DION: substance used first in surgery as a protection for wounds, etc., from contact of air, by the tenacious and transparent film which it leaves on evaporation—now, also, in slightly modified form, used as the basis of a highly sensitive process in photography.—It is a solution of *Pyroxyline* in a mixture of alcohol and ether, to which is added, for photographic operations, a small quantity of some soluble iodide, bromide, or chloride.

The first step in making C. is the preparation of pyroxyline: Take 10 fluid ounces of sulphuric acid specific gravity 1.84, in a dish; add 12 fluid drachms of water and 10 fluid ounces of nitric acid, specific gravity 1.45; and raise the temperature to 140° by immersing the dish in boiling water. One ounce of pure linen or paper should now be immersed in small pieces at a time, keeping the mixture in motion until the liquid is nearly absorbed by the linen or paper.

The action having continued for about ten minutes, the contents of the dish should be plunged into a vessel containing a large quantity of water, which should be speedily poured off and repeatedly changed, until the linen or paper is so thoroughly washed as not to give the slightest indication of acid to the most delicate test-paper, after which it should be slowly dried at a low temperature, and preserved in a glass bottle for use.

Of the pyroxyline thus prepared 104 grains are dissolved in a mixture of 16 oz. of pure sulphuric ether, and

COLLODION.

2 oz. alcohol, specific gravity .840; and to this mixture are added 48 grains iodide of cadmium, 30 grains iodide of potassium, and 25 grains bromide of cadmium, dissolved in 4 oz. of alcohol, of specific gravity .840. C. thus prepared should, after becoming clear by subsidation, yield a rich creamy film of iodide and bromide of silver on immersion in the nitrate bath.

The foregoing formula yields a C. very suitable for taking what are termed *negative* impressions in the camera; but when it is desired to take *positive* pictures, cotton wool should be substituted for linen or paper in the preparation of the pyroxyline, and the iodizing solution should contain iodide of ammonium instead of iodide of potassium. It is important also that the alcohol employed should be free from organic impurities in the shape of fusel and grain oils, small traces of which mar the purity of the high lights in a positive, though their presence is comparatively harmless in a negative photograph. For surgical purposes a *flexible* C. is used, composed of C., combined with certain proportions of Canada balsam and castor-oil: see CELLULOID: GUN COTTON.

COLLODIONIZED PAPER PROCESS.—Paper being substituted for glass in this process, as a basis upon which to support the film, a great increase in portability is arrived at, as the sensitive sheets may be carried in a portfolio, and employed in the same manner as dry collodion plates. There are some difficulties, however, in the way of its successful practice. The following is a brief summary of the manipulations. Mr. Corbin, inventor of the process, ascertained that a peculiar collodion was requisite, the formula of which is as follows: ether, 650 parts; alcohol, 350 parts; pyroxyline, 15 parts; iodine, $1\frac{1}{4}$ part. The collodion so prepared is poured on the glass in the usual way, and sensitized in a bath containing only one per cent. of nitrate silver, and a half per cent. of nitric acid. The plate, having remained in this bath about two minutes, is withdrawn and freely washed with water; it is then immersed in a solution of one per cent. of iodide of potassium, to insure the complete decomposition of the whole of the free nitrate of silver not removed by the washing. A piece of negative paper is now coated with a solution of gelatine, containing 6 parts of gelatine to 100 parts water: the dimensions of the paper should be rather less than the glass, and the gelatinized side is brought into contact with the collodion film in a dish of water, any intervening water being expelled by passing a glass rod lightly over it. The edges of the collodion film which project beyond the paper are folded back on it, and the film and paper removed together. The now collodionized paper is laid, film uppermost, on a glass plate, coated with a preservative solution, composed of equal parts of albumen and honey, diluted sufficiently to enable it to flow freely over the paper. The film is lastly sensitized in a solution of nitrate of silver, 5 parts; glacial acetic acid, 5 parts, water, 100 parts; it is then freely washed as before in water, and hung up to dry. As it is apt to wrinkle in drying, it should be attached by all four corners to two lines.

COLLODIO-CHLORIDE PROCESS: photographic printing process invented about 1863. It consists in holding in suspension a precipitate of chloride of silver in collodion, which is flowed upon glass or paper, in a manner similar to preparing a plate for the negative process, and dried in the dark. An excess of free nitrate of silver is necessary to impart sensitiveness; an addition of citric acid and other organic substances is used to produce the desired tints. After exposure the picture is fixed and toned as usual.

COLLOQUE, v. *kòl-lôg'* [F. *colloque*, a colloquy—from L. *con*, together; *loquor*, I speak]: in *OE.*, to converse secretly; to confederate, as for an unlawful purpose; to wheedle; to flatter. **COLLOG'UING**, imp. **COLLOGUED**, pp. *kòl-lôgd'*.

COLLOP, n. *kòl'lôp* [Ger. *kloppe*, meat made tender by beating: Sw. *kalops*, slices of beef stewed: Dut. *klop*; It. *colpo*, a blow]: formerly a slice of meat made tender for cooking by beating; a small slice of meat. **COLLOP-MONDAY**, the Monday before Lent. In the north of England, fried slices of bacon were formerly eaten on this day. **MINCE COLLOPS**, n. plu. meat minced up into very small pieces.

COLLOPHORA, n. *kòl-lôf'o-ra* [Gr. *kolla*, glue; *phoreō*, I bear]: a genus of plants, order *Apocynaceæ*, tribe *Willughbeieæ*. *Collophora utilis*, a South American species, yields caoutchouc.

COLLOQUIAL, a. *kòl-lô'kwî-ăl* [L. *collōquium*, a conversation, a discourse—from *con*, together; *loquor*, I speak: It. *colloquio*; F. *colloque*, a colloquy]: pertaining to ordinary conversation. **COLLO'QUIALLY**, ad. *-lî*, in a familiar conversational manner. **COLLO'QUIALISM**, *-izm*, a form of expression in familiar common use. **COLLOQUIST**, n. *kòl'lô-kwîst*, a speaker in a dialogue. **COLLO'QUY**, n. *-kwî*, conversation between two or more; a conference; dialogue. **COLLO'QUIALIZE'**, v. *-ăl-îz*, to render colloquial.—**SYN.** of 'colloquy': conversation; conference; dialogue; discourse.

COLLOT D'HERBOIS, *ko-lo' dêr-bwâ'*, **JEAN MARIE**: 1750–1796, Jan. 8; b. Paris: infamous character in the first French Revolution. Originally a provincial actor, the revolutionary movement attracted him to Paris, where his impudence, his loud voice, and his *Almanach du Père Gérard*, which obtained the prize of the Jacobin Club, secured public recognition, and he was elected to the national convention as one of the deputies for Paris. His general ferocity marked him as fit for the presidency of the convention, to which he was appointed 1793, June 13, and as a member of the murderous committee of public safety. Sent by Robespierre to Lyon 1793, C. took bloody revenge on the inhabitants for having once hissed him off the stage in the theatre. Not less than 1,600 persons were destroyed by the guillotine and by discharges of grape-shot. An attempt made to assassinate C. (1794, May 23), served only to increase his popularity, and thus excited the envy of Robespierre, who determined to destroy so formidable a rival. C. therefore was prominent in the overthrow of Robespierre and his party, 1794, July, but the reaction following this

COLLUDE—COLLYER.

event proved fatal to himself. C. was expelled from the convention and, 1795, Mar., was sentenced to deportation to Cayenne, where he caught a fever and died in great agony.

COLLUDE, *kōl-lōđ'* [L. *collūdĕrĕ*, to play or sport together—from *con*, together; *lūdĕrĕ*, to play, to mock: It. *colludere*; F. *colluder*]: to play into each other's hands; to conspire in a fraud; to act in concert. **COLLUDING**, imp. **COLLU'DED**, pp. **COLLU'DER**, n. one who. **COLLU'SION**, n. -lō'zhŭn [F. *collusion*—from L. *collūsīōnem* sport or play together]: secret agreement between two or more persons for some evil purpose, as to defraud any one. The law abhors collusion, and makes void every transaction founded upon it. Arrangements between bankrupts and creditors whom they wish to favor, on the eve of bankruptcy, are among the most frequent instances of it, and one of the leading objects of all systems of bankrupt laws has been to defeat them. In England it is spoken of as 'a deceitful agreement or contract between two or more persons, for the one to bring an action against the other, to some evil purpose, as to defraud a third person of his right. --*Tomlin's Dictionary*. But there is not limit to the circumstances in which its occurrence is conceivable. **COLLU'SIVE**, a. -sĭv [L. *collŭsus*, played or sported together]: deceitful; fraudulent. **COLLU'SIVELY**, ad -lĭ, in a manner to defraud secretly. **COLLU'SIVENESS**, n. **COLLU'SORY**, a -sĕr-ĭ, carrying on fraud by secret agreement.

COLLUM, n. *kōl'lŭm* [L. *collum*, the neck]: in *bot.*, the part where the stem and root join, and termed the neck of a plant.

COLLUSION, **COLLUSIVE**, etc.: see under **COLLUDE**.

COLLY, **COLLIE**, or **COLLEY**, n. *kōl'li* [Gael. *colg*, the hair or fur of an animal; *colgach*, hairy, shaggy; *cu*, a dog: eomp. Gr. *kŭōn*; L. *canis*, a dog]: in *Scot.*, the shepherd's dog, of a peculiar breed, and remarkable for its sagacity—so named from its shaggy hair.

COLLY, n. *kōl'li* [Norse. *kola*, to black or smut; *kolut*, smutted: Sw. *kolna*, to become black]: smut; soot; the smut or grime of coal: V. to blacken with soot; to smut. **COLLY-ING**, imp. *kōl'li-ing*. **COLLIED**, pp. *kōl'liđ*: **ADJ.** blackened; smutted.

COLLYER, *kōl'yĕr*, **ROBERT**, D.D.: Unitarian minister: b. Keighley, Yorkshire, England, 1823, Dec. 8. (He has sometimes been confused with Robert Laird Collier, 1837-90, b. Md., also originally a Meth., afterward a popular Unit. preacher in Chicago and Boston.) At the age of 8 he became a factory operative; at 14 was apprenticed to a blacksmith. His tuition was limited to an evening school for two seasons. In 1849, he preached as a Methodist, and the next year came to the United States, practicing his handieraft at Shoemakertown, Penn., but still preaching. Embracing Unitarianism, he went to Chicago 1859, and soon organized the Church of the Unity. In 1879, he became pastor of the Church of the Messiah, New York, becoming pastor emeritus 1896. His style spoken and written has singular charm.

COLLYRIUM—COLOCYNTH.

COLLYRIUM, n. *kōl-lŭ'ŕi-ŭm* [Gr. *kollu'rŭn*, an eye-salve]: a lotion or wash for any part of the body, latterly applied chiefly to a wash for the eyes; an eye-water.

COLMAN, GEORGE, 'the younger:' 1762, Oct. 21—1826, Oct. 26; son of George C., the elder. His bent lay in the same direction as his father's, during whose illness he acted as manager of the Haymarket Theatre; and on the death of the elder C., George III. transferred the patent to his son. C. held, for a considerable time, the office of examiner of plays. In industry he rivalled his father, and he received large sums for his dramatic writings, some of which continue on the stage. His last literary work was *Memoirs*, two volumes.

COLMAR, *kōl-mār'*: city ceded to France 1697, and repossessed by Germany since 1870: cap. of Upper Alsace; on a plain near the Vosges, 41 m. n.e. of Strasburg. A stream of water from the Lauch and Fecht, at the confluence of which the town stands, flows through and keeps the streets clean. Among principal buildings are the cathedral, the Dominican church, college, court-house, and town-house. C. is a busy place—one of the chief seats of the cotton manufacture in Alsace. Water, being abundant, is the principal motive-power for the machinery, but steam also is employed. Other manufactures are paper, leather, ribbons, and hosiery. C. is an old place, having been raised to the rank of a city 1220. About the end of that century, it was made a free town, and rapidly became one of the most prosperous in Upper Alsace. Fortified 1552, its fortifications were razed 1673 by Louis XIV., and pleasant boulevards now occupy their place. Pop. (1880) 26,106; (1885) 26,537; (1890) 30,411.

COLNE, *kōln*: town in the e. of Lancashire, England, on a high ridge near the source of the Calder, w. branch of the Ribble; 32 m. n.e. of Manchester, at the junction of the Lancashire and Yorkshire and Midland railways. It has manufactures of cotton calicoes, and mousselines-de-laine. Coal, slate, and lime abound in the vicinity. C. is an ancient place, by some supposed to be the *Colunio* of the Romans. Many Roman coins have been found here. As early as the beginning of the 14th c. it was the seat of woolen manufactures. Pop. (1881) 10,313; (1891) 16,700.

COLOCO'LO: large and fierce cat in northern S. America; it preys on various small animals.

COLOCYNTH, n. *kōl'ō-sŭnth* [Gr. *kolokun'this*, the wild or purging gourd]: the bitter apple of the druggists; well-known medicine, much used as a purgative; the dried and powdered pulp of the *Colocynth Gourd*, *Coloquintida*, *Bitter Apple*, or *Bitter Cucumber*, a globose fruit about the size of an orange, of a uniform yellow color, with a smooth, thin, solid rind. The plant which produces it, *Cucumis* (or *Citrullus*) *Colocynthis*, is nearly allied to the cucumber (q.v.). It is common in Asia, Africa, and Spain, which last country supplies much of the C. of commerce. The fruit is gathered when it begins to turn yellow, peeled, and dried quickly either in a stove or in the sun. It is chiefly in the

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form of a dried extract that it is used in medicine. It owes its properties to a bitter principle called *Colocynthine*, more or less abundant in the fruits of many of the gourd-family. It is a remarkable fact, but to which there are many analogues, that the seeds of the C. plant produced in the midst of its medicinal pulp, are perfectly bland, and even form an important article of food in the n. of Africa.—The name false C. is sometimes given to the orange gourd (*Cucurbita aurantia*), sometimes cultivated as an ornamental plant in gardens, for its globose, deep-orange fruit. The pulp of the fruit has the properties of C., but in milder degree.

C. is administered usually in the form of pills, in which the extract is associated with aloes, scammony, and in some cases with calomel or with extract of hyoscyamus. In small doses, the C. acts as a safe and useful purgative; and when accompanied by hyoscyamus, the latter prevents much of the pain and griping attendant on the use of C. by itself. In large doses, C. is a poison.

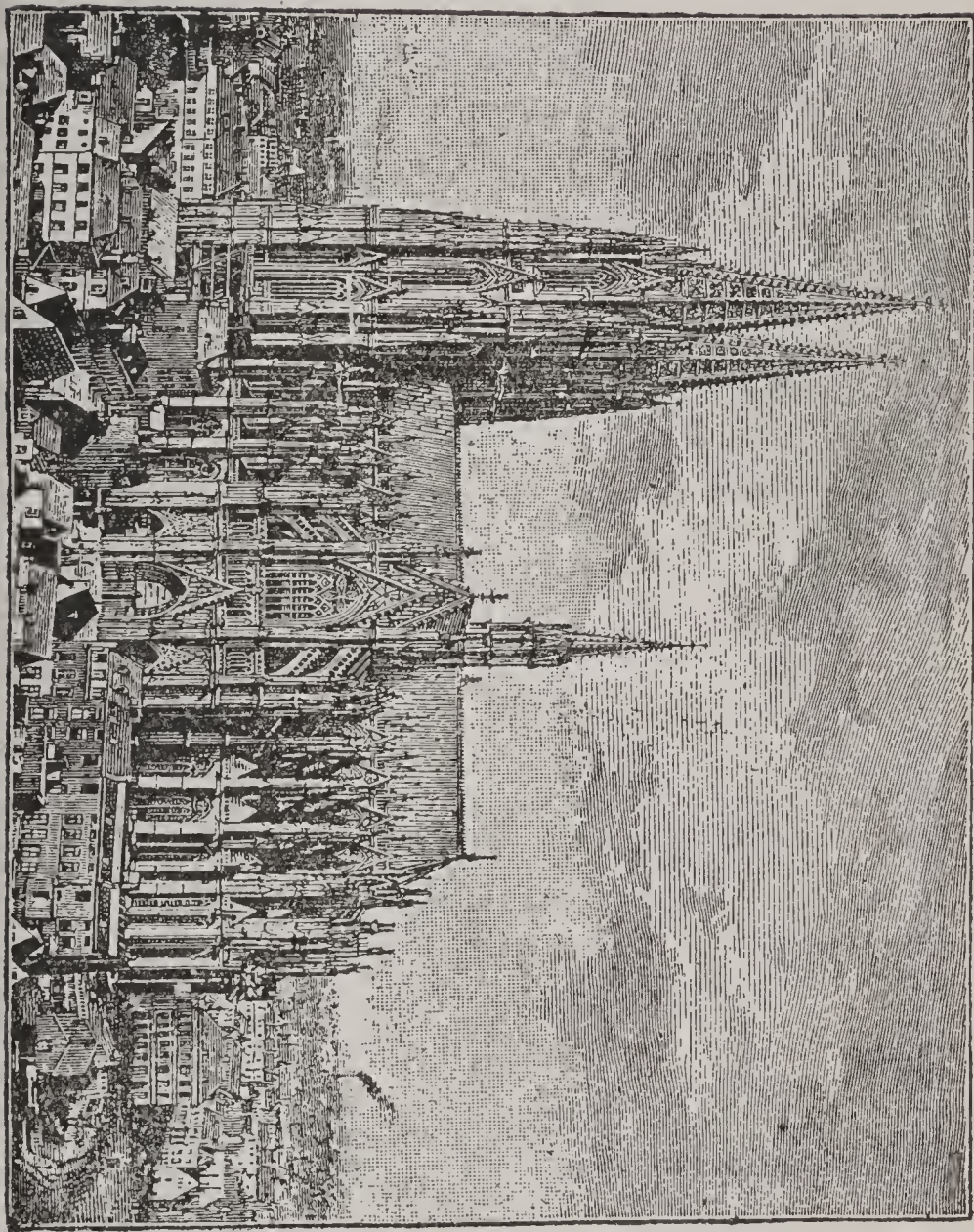
COLOCZA, *ko-lots'ö*, or KALOCSA, *kö-loch'ö*: town of Hungary, on the left bank of the Danube, 68 m. s. of Pesth. It has an archiepiscopal palace or castle and a cathedral. The inhabitants are busied chiefly in the fisheries on the Danube and in the breeding of cattle. There is a steam-packet station at C. Pop. (1880) 15,789; (1890) 18,176.

COLOGNE, or COLOGNE-WATER: see EAU-DE-COLOGNE.

COLOGNE, *kō-lōn'* (Ger. *köln*; the *Colonia Agrippina* of the Romans): city and free port on the left bank of the Rhine: lat. 50° 56' n., long. 6° 58' e. Formerly an independent city of the German empire, it is now cap. of Rhenish Prussia. C. is a fortress of the first rank, forming a semicircle, with the Rhine as its chord, and the town of Deutz on the opposite bank as a tête-du-pont. It is connected with this suburb by a bridge of boats, and a fine iron bridge 1,362 ft. in length, for railway and carriage traffic. Pop. (1900) 372,529, of whom only 25,115 were Protestant. The streets are mostly narrow and crooked. The public buildings are numerous, including a number of educational and of charitable institutions. The church of St. Ursula is noted as the place where are preserved the bones of 11,000 virgins, companions of St. Ursula (q. v.) who, according to the legend, were slaughtered at C. by the Huns, because they refused to break their vows of chastity. In the 'golden chamber' are the coffin of the saint, and the skulls of a few of her most favored maidens incased in silver. The church of St. Gereon, the first portion of which was founded 1066, boasts of the possession of the bones of St. Gereon, and of the 6,000 Theban martyrs slain during Diocletian's persecution. The church of St. Peter is celebrated for the altar-piece of the crucifixion of St. Peter by Rubens; and that of the Minorites for containing the tomb of the famous scholastic, Duns Scotus. The chief object of interest in the city, however as well as its greatest ornament, is the cathedral, one of the noblest specimens of Gothic architecture in Europe. This cathe

dral is said to have had its origin in an erection by Abp. Hildebold during the reign of Charlemagne, 814. Frederic the Red-bearded bestowed on it, 1162, the bones of the three holy kings, which he took from Milan, and this gift contributed greatly to the increase of its importance. The bones are retained as precious relics to this day; but the old structure was burned 1248; according to some accounts the present cathedral was begun in the same year, but others fix the date of its commencement 1270-75. To whom the design of this noble building is to be ascribed, is uncertain. The choir, the first part completed, was consecrated 1322. The work was carried on, sometimes more actively, sometimes more slowly, till the era of the Reformation, when it was suspended; and during the subsequent centuries not only was nothing done to advance it, but what had been already executed was not kept in repair. In the beginning of the nineteenth c. attention was directed to its unrivalled beauties, and it has since become the subject of an enthusiasm extending over all Germany, which has given birth to a multitude of associations for the supply of the necessary funds to repair and complete it according to the original design. Funds have been forthcoming also from other parts of Europe. In 1842, Sep. 4, the king of Prussia, who had contributed largely to the funds, laid the foundation-stone of the transept, since which time great progress has been made. The naves, aisles, and transepts were opened 1848. The magnificent s. portal was completed 1859, and the n. also has been finished; and in 1860 the iron central spire was added. With the exception of the towers the church was completed 1863; and the towers, the crown of the edifice, were finished 1880, Aug. The body of the church measures 500 ft. in length, 230 ft. in breadth; the towers are above 500 ft. high. Since 1823 \$5,000,000 has been expended on the building; the total cost of the whole is estimated at \$10,000,000.

The situation of C. is extremely favorable for commerce. Various branches of manufacture are carried on, of which the chief are the making of beet-sugar, tobacco, glue, carpets, soap, leather, furniture, pianos, chemicals, and spirits of wine, besides the characteristic manufacture of eau-de-Cologne (q.v.). In 1886, 7,049 vessels and boats traded at the quays of C. C. has extensive and important railway connections.—The city was founded by the Ubii, about B.C. 37, and was called at first *Ubiorum oppidum*; but a colony being planted here A.D. 50, by Agrippina, wife of the emperor Claudius, it received the name of *Colonia Agrippina*. At the partition of the Frank monarchy 511, it was included in Austrasia; and by a treaty, 870, was united to the German empire. It entered the league of the Hanse towns in the beginning of the 13th c., and contended with Lübeck for the first rank. It was at a very early date the seat of a bishopric, which was elevated, in the end of the 8th c., into an archbishopric, and the archbishops acquired considerable territories, some of them distinguishing themselves as politicians and warriors. They took their place among the princes and electors of the empire, but were in-



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volved in a protracted contest with the citizens of C., who asserted against them the independence of the city, and the archiepiscopal residence was therefore removed to Bonn. The archbishopric was secularized 1801, when the city also lost its independence, and the congress of Vienna did not attempt to restore to it its former character, but assigned the whole territories to Prussia. The abp. therefore, has not now the political rights and power of his predecessors.

COLOGNE YELLOW: pigment composed of two parts of yellow chromate of lead, one of sulphate of lead, and seven of sulphate of lime or gypsum.

COLOLITES, n. plu. *kōl'ō-lits* [Gr. *kōlon*, one of the intestines; *lithos*, a stone]: in *geol.*, a name given to certain intestine-like masses and impressions.

COLOMBANO, SAN, *sân kō-lōm-bá'nō*: town of n. Italy, province of Milan, on the right bank of the Lambro, about 10 m. s. of Lodi. It is in the midst of hills in which are porphyry, felspar, and fine red granite; also limestone containing numerous fossils. Pop. 6,000.

COLOMBIA, *kō-lōm'bē-á*: term which immediately after the war of independence embraced all that now belongs to the three republics of Venezuela, United States of Colombia, and Ecuador—being the entire north of S. America, and the extreme south of what is geographically distinguished as Central America. Independently of the great difficulties of communication, and of the resulting absence of anything like natural unity, this unwieldy state contained, from the beginning, the cause of its own dissolution in the diverse national character of its inhabitants. So long as union was necessary to meet external dangers, C. maintained an imposing attitude in the eyes of the world; but, gradually, sectional interests and political jealousies did their work, and at last, about 1830, the ill-assorted elements of the confederation were separated.

COLOMBIA, REPUBLIC OF: official title since 1886, of what was formerly called New Granada. It was organized after the revolution of 1884-5, and the new constitution 1886 reduced the 9 former self-governing states of Antioquia, Bolivar, Boyacá, Cauca, Cundinamarca, Magdalena, Panama, Santander, and Tolima to subordinate departments; which still, however, retain the management of their own finances. It is bounded on the n. by the Caribbean Sea, e. by Venezuela, s. by Ecuador and Brazil, and w. by Costa Rica; lat. 12° 25' n.—5° 8' s., long. 70° 40'—82° 40' w.; 504,773 sq. m.; pop. (1903) about 4,000,000, including some 200,000 uncivilized Indians; cap. Bogota. The executive authority is vested in a pres., elected for 6 years, who is assisted by a vice-pres., 6 ministers, and a council of state; and the legislative in a senate and house of representatives. The strength of the army in peace is 5,500, in war 1 per cent. of the population. In 1891-2 the revenue was \$20,351,100; the expenditures \$23,911,515; and the debt \$14,890,000; and 1890 the imports were \$13,345,792, and the exports \$20,457,855. The United States trade with C. was, 1887, imports \$3,795,220; domestic-ex-

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ports to C. \$5,557,062; 1888, imports \$4,612,202, exports \$4,806,961.

The country is intersected by three great ranges of the Andes, which spread out like the rays of an open hand from the plateau of Pasto and Tuquerrez in the south (14,000 feet high), and are known as the Western, Central, and Eastern Cordillera. Between these chains lie the long and beautiful valleys of the Cauca and the Magdalena. The Central Cordillera is the highest chain, rising in Nevada de Tolima to a height of 18,020 ft., and from one of its peaks, near the frontiers of Ecuador, called Paramo de las Papas, descend the two principal rivers of C., the Magdalena and its tributary the Cauca, flowing north into the Caribbean Sea, besides several affluents of the Amazon in the east, and one or two streams flowing westward into the Pacific. The E. Cordillera is by far the largest chain, and consists of a series of vast table-lands, cool and healthy, where the white race flourishes as vigorously as in Europe. This temperate region is the most densely peopled portion of the confederation, being, in some places, at the rate of 2,600 to the square league. Bogota (q.v.), the present capital, is situated on one of these plateaus, at an elevation of 8,694 ft. Eastward from this Cordillera stretch enormous plains as far as the Orinoco, the greater part of which belongs to C., and through which flow the Meta, the Guaviare, and other tributaries of the Orinoco. The geology of the country is very extraordinary. 'Everywhere,' we are told, 'are found traces of stupendous cataclysms, and a disarrangement and intermixture of primitive and sedimentary rocks which seems to put all classification at defiance.' In the course of one day's journey, the traveller may experience in this country all the climates of the world. Perpetual snow covers the summits of the Cordilleras; while the rich vegetation of the tropics covers the valleys. With its great variety of levels and climates, C. yields naturally an equally great variety of productions—cattle, horses, wheat, and other European grains, maize, tobacco, coffee, plantains, cotton, cacao, sugar, cedar, mahogany, cinchona bark, ipecacuanha, gold, silver, copper, iron, and lead, coal, emeralds, pearls, and rock-salt.

The Magdalena and the other great streams are the principal arteries of commerce, and a good deal of steamer traffic is carried on; but beside that of Panama there were only 6 railroads open for traffic 1890, with a total length of 218 m. The telegraph system had 5,000 m. of lines, and this, the postal service, and the parcel post with Great Britain established 1888, are worked as efficiently as the condition of the country will permit. During 1889 the gold mines on the Isthmus again attracted attention, and the govt. ceded a number of mines to natives and foreigners. (For the Panama canal, see INTEROCEANIC SHIP CANAL.)

The chief aborigines of the country, called *Chibchas*, or *Muyscas*, held a high rank among the semi-civilized nations of the new world. They are said to have been frugal and industrious, with a well-organized government and a very passable religion—for heathens. They were conquered by

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Ximenes de Quesado (1536-37), and their descendants are now 'Christians,' and speak the Spanish language. Several of the other tribes maintain a savage mode of life; and some, as the Mesayos, are even said to be cannibals. In 1719, New Granada was made a vice-royalty by Spain. In 1819, it became independent, and joined with Ecuador and Venezuela to form the republic of Colombia; but the union was dissolved in 1829-30, and New Granada was organized as a separate republic, 1832. After several changes in the constitution (in 1843, '51, '53), a complete fundamental change was made in 1858 by which the separate 'provinces' were changed into 'states,' associated under a federal government like the 'United States' of N. America, but self-governing in all internal affairs. This form of govt. lasted till the revolution 1861, when the conservatives, or federalists, and the liberals concluded a convention and established the United States of C. In 1863 a constitution was adopted similar to that of the United States of America, with a pres. elected for two years, but this proved unsatisfactory, and after 20 years' trial brought about the revolution 1884-5. After this the title of the govt. was changed to the Republic of C., and 1886 another constitution was adopted, as already stated. The U. S. having agreed to purchase the property of the French Panama Canal Co., a treaty with Colombia to sell to the U. S. its rights, privileges, properties, concessions, a strip of land six miles wide across the isthmus, etc., was signed in Washington, D. C., 1903, Jan. 22.

COLOMBO, n. *kō-lōm'bō*: a name applied to the *calumba* root, as erroneously supposed to have come from *Colombo* in Ceylon: see CALUMBA, and COLUMBA.

COLOMBO, *kō-lōm'bō*: capital of Ceylon; episcopal city and seat of government; on the w. side of the island, 6° 59' n. lat., and 80° 4' e. long., near a rocky headland, the *Jovis Extremum* of Ptolemy, by which the mariners of antiquity steered for the port of Galle. The modern fortifications of C., constructed by the Dutch, include, on the land side, four bastions with counterscarps and ravelins, and, toward the sea, seven batteries. Except the military officers, few Europeans reside within the fort. Colpetty, a beautiful suburb, shaded by groves of the cocoa-nut palm, is a favorite retreat. Here the houses are chiefly of one story, with broad verandas. The large and lofty rooms are furnished with punkahs, floored with tiles, and, for the sake of air, have windows opening to the ground at which, however, snakes, lizards, scorpions, and the teeming insects of a tropical country make free to enter. The humble, mud-constructed dwellings of the Dutch, Portuguese, Eurasians, Singhalese, Tamils, Moors, and Malays are outside the city walls. The *pettah* or black town, the only ancient quarter, extends to the river Kalany-ganga. C. is connected with Kandy by railway. The mean annual average of temperature at C. is abt. 80°, and has reached 86° in extraordinary years. The annual fall of

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rain is 72·4 inches, of which the greatest quantity is measured at the change of the monsoon when it pours down in a perfect deluge. Out of 72·4 inches, 20·7 fall in Apr. and May, and 21·9 in Oct. and November.

The early name of C., Kalan-totta, the 'Kalany Ferry,' so called from its proximity to the river, the Moors corrupted into Kalambu, and by this designation it was described about A.D. 1340 as the finest city of Serendib. At the arrival of the Portuguese, who fortified it 1517, Kalambu had merged into Kolamba or Columbu, which they henceforth wrote Colombo, in honor of Christopher Columbus. The Dutch succeeded to the Portuguese (see CEYLON), and C. was taken by the British, 1796, Feb. 16.—Pop. (1891) 126,926; (1901) 158,093.

COLON, n. *kō'lōn* [L. *colon*; Gr. *kōlon*, the largest of the intestines, a member: It. and F. *colon*]: the largest of the intestines; in writing or printing, the mark [:] chiefly used to separate the perfect clauses of a sentence, and which indicates a longer pause than a semicolon [;], but a shorter one than a period [.]: see PUNCTUATION.

COLON: see ASPINWALL.

COLON: that portion of the large intestine which extends from the cæcum (q.v.) to the rectum, which is the terminal portion of the intestinal canal. Whether it is derived from *koilon*, 'hollow,' or *kōlao*, 'I arrest' (because the fæces are retained for a considerable time in it), is uncertain. It is divided into the ascending, the transverse, and the descending C., and the sigmoid flexure: see ALIMENTARY CANAL.

The whole length of the C., from its commencement in the cæcum to its termination in the rectum, is rather more than four ft. It is retained in its position by the serous membrane, which envelops, more or less, all the intestinal viscera, and which is termed the peritoneum (q.v.). Its structure is essentially the same as that of the rest of the intestinal canal (see DIGESTION, ORGANS AND PROCESS OF); but in consequence of a peculiar arrangement of the longitudinal muscular fibres the interior of the C. is divided into sacculi, which serve to retain its contents for a longer period than if it were a uniform tube, and thus by extracting water from them, to reduce them to a more solid consistence, such as is possessed by normal excrement. In some animals, as in the horse and sheep, the shape of the fæces is completely molded in these cells.

COLONEL, n. *kēr'něl* [F. *colonel*—from It. *colonnello*, a colonel, also a little column—from L. *columna*, a column: OF. and Sp. *coronel*—*lit.*, one who leads the little column or company]: the chief officer of a regiment; an officer of the highest rank below a general. LIEUTENANT-COLONEL, the second officer in a regiment, in rank next below a colonel. COLONELCY, *kēr'něl-sī*, or COL'ONELSHIP, n. the rank or commission of a colonel.

COL'ONEL: highest officer of a regiment; any grade above this converts him into a general officer belonging to

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the army collectively rather than to any one regiment. Before the reign of Elizabeth the chief officer of an English regiment was captain, but in 1588 the title of C. had become familiar. In the British army at the present day, except in the artillery and engineers, the office of regimental C. is a sinecure, the real active commander of the battalion being the lieut.col. The C. receives higher pay and dignity. The colonels are generals, who have had what is called a regiment 'given to them' as a reward for long service, and virtually as a retirement. The pay, except in the guards (where it is higher), is £1,000 a year: see COMMISSIONS: ARMY. Apart from regimental rank there is the army or brevet rank of colonel, through which all officers must pass on the way to general officer. It is attained by specified service in certain positions as lieutenant colonel. In the Austrian, Prussian, and Russian armies, where the regiments are very large, the colonelcies are mostly honorary posts, held by emperors, kings, princes, and other distinguished persons. In the U. S. army, a col. holds the same rank as in the Brit. army—above lieut.col. and below brigadier gen.; but he is regularly the acting commander of a regt., though on emergency assigned to duty as a brigadier.

COLONIA DO SANTISSIMO SACRAMENTO, *ko-lō'-ne-â do sân-tēs'sē-mo sâ-krâ-mēn'to*: port of Uruguay or Banda Oriental, on the n. or left bank of the Plata, nearly opposite Buenos Ayres, about 100 m. above Monte Video, cap. of the state. The place is fortified. As its acquisition would tend to secure to Buenos Ayres the entire command of the interior navigation, the town was seized by Rosas, the dictator of that state; but, in the interest of the freedom of commerce, it was, 1845, taken from him by the French and English squadrons.

COLONIAL BISHOPRICS: there are 51 Eng. colonial bishoprics, the first established being that of Nova Scotia 1787. Colonial bishops can exercise all episcopal functions in Great Britain, except jurisdiction: see BISHOP.

COLONIAL CORPS: regiments for colonial service, forming part of the regular army of the British empire, and paid for out of the imperial revenues; comprising about 95 companies, over 1,000 officers, commissioned and non-commissioned, and about 1,000 horses. The Cape Mounted Rifles was a mounted infantry corps.

As the colonies obtained self-government it was considered as against imperial polity to maintain, out of imperial revenue, corps tied to one colony, and not available for the general defence of the Empire. Accordingly the colonial corps have been gradually disbanded, and there remain only two West India regiments and the Malta Fencibles.

COLONIA POWDER, *ko-lō'nī-a*: mixture of gunpowder with nitro-glycerine (q.v.).

COLONIZATION SOCIETY, THE AMERICAN: organized 1816 to remove negroes to Africa. Efforts had

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been made long before by Samuel Hopkins, D.D., and Ezra Styles, D.D. of Newport, beginning 1773. A company of 38 negroes were taken from New Bedford to Sierra Leone 1815. Through the efforts of Bp. Meade and others, meetings were held and a constitution adopted; the first officers were elected 1817, June, and two agents sent to Africa, who selected Sherbro Island and the adjoining coast as a site. A settlement was made, 1822, at Cape Mesurado; from this foundation grew the republic of Liberia, 1824, '28, '47. The successive presidents of the soc. were Bushrod Washington, Chas. Carroll, Jas. Madison, Henry Clay, and J. H. B. Latrobe. Down to 1872 13,598 persons were sent out, and \$2,364,648 received and expended; the Md. and other auxiliary societies added to these figures at least 1,227 emigrants and over \$400,000. The soc. has accomplished a good work, though its primary intention of aiding in the settlement of the menacing slavery question came utterly to nought.

COLONNA, *ko-lon'nâ*: village in central Italy, which gave its name to the most celebrated and powerful of all the Roman aristocratic families—the Colonna—from which have sprung a pope, several cardinals, generals, statesmen, and noted scholars. The C. palace, at the base of the Quirinal (Rome), is celebrated for its splendid gallery and treasures of art.

COLONNA, CAPE (anc. *Sunium Promontorium*): headland of Greece, the southmost point of Attica; lat. 37° 38' n., long. 24° 1' e. Crowned by the ruins of a temple of Minerva, its summit rising about 270 ft. above the water. Cape C. is a conspicuous and remarkable object from the sea. Sixteen white marble columns, from which the cape derives its modern name, are still standing.

COLONNA, PROSPERO: son of Antonio C., Prince of Salerno and Duke of Amalfi: one of the greatest of Italian generals: d. 1523. On the invasion of Naples by Charles VIII., King of France, 1494, P. C. gave him his aid because the enemies of his house, the Ursini, had espoused the opposite cause. He fought the French after their expulsion, gained a great victory for the king of Spain over the Venetians, 1513, was taken prisoner by the French at the battle of Villafranca, 1515, after gaining his liberty took Milan, 1521, and defeated Lautrec, a celebrated French general, in the battle of Bicoque, 1522. He was pursuing a vigorous and successful campaign at his death.

COLONNA, VITTORIA: most celebrated poetess of Italy: 1490–1547, Feb.; member of the powerful Colonna family, daughter of Fabrizio C., high constable of Naples, at whose estate of Marino she was born. When four years old she was betrothed to a boy of the same age, Fernando d'Avalos, son of the Marchese de Pescara. At the age of 17 they were married. After her husband's death, in the battle of Pavia (1525), Vittoria C. found her chief consolation in solitude and the cultivation of her poetical genius. During seven years of her widowhood she resided alternately at Naples and Ischia, and then removed to the con-

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vent of Orvieto; afterward to that of Viterbo. In her later years she left the convent and resided in Rome, where she died. Her poems were devoted chiefly to the memory of her husband. Among them the *Rime Spirituali* (Venice, 1548) are remarkable for truth of sentiment and enlightened piety. The most perfect edition of the poems of Vittoria C. was published by Ercole Visconti (Rom. 1840).

COLONNADE, n. *kōl'ō-nād'* [F. *colonnade*—from F. *colonne*; L. *columna*, a column; It. *colonnata*, a range of columns—from *colonna*, a column]: a series or range of columns placed at intervals; an avenue of trees.

COLONSAY, *kōl'on-sā*: one of the Western Isles of Scotland, off the s.w. part of the mainland of Argyleshire, in the wide entrance of the Firth of Lorn, between the isles of Islay and Mull, with the small isle of Oronsay at the s. end, separated by a narrow sound which is dry at low water. C. and Oronsay are together 12 m. long from n e. to s.w. and one to three miles broad. The surface is irregular, and composed of mica-slate, passing into chlorite-slate and clay-slate, and mixed with quartz-rock and limestone. Half the surface is cultivated. Next to Iona, C. contains the most extensive remains of religious edifices in the Western Isles. On Clonsay stand a large stone cross and the ruins of a monastery founded by the Lords of the Isles in the middle of the 14th c. Pop. of C. (1881) 387; (1891) 381.

COLONUS, *kō-lō'nūs*: in civil law, a freeman of inferior rank, corresponding with the Saxon *ceorl* and the German rural slaves. It has been held probable that many of the *ceorls* were descended from the *coloni* taken into Saxony by the Romans. The names of the *coloni* and their families were all recorded in the archives of the colony or district, from which fact they were also known as *adscriptitii*.

COLO'NUS: eminence near Athens, to which Œdipus retired during his banishment to Thebes, and from which Sophocles gave the title of Œdipus Coloneus to one of his finest tragedies. According to Pollux, there were two places at Athens known respectively as Equestris and Agoræus Colonnus.

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COLONY, n. *kol'ō-nī* [F. *colonie*—from L. *colōniā*, an abode or dwelling—from *colōnus*, a husbandman—from *colĕrĕ*, to till (the first inhabitants of a country being generally engaged in tilling the ground): It. *colonia*]: a body of persons who have gone from their native country to a distant district, or a new country, in order to settle and cultivate it; the country thus settled or planted. COLONIAL, a. *kō-lō'nī-āl*, pertaining to a colony. COLONIST, n. *kōl'o-nīst*, an inhabitant of a colony. COL'ONIZE, v. *-nīz*, to settle or plant a colony in; to remove and settle in a country. COL'ONI'ZING, imp. COL'ONIZED, pp. *-nīzĕd*. COL'ONIZA'TION, n. *-nī-zā'shūn*, the act of planting with inhabitants. The term *colony* is loosely used to embrace various classes of distant territories subordinate to or dependent on a parent state. A C., however, properly means a body of people formed by migration to a distant region, where they support themselves by industry and the produce of the soil, and are under the protection and attached to the supreme government of the mother country. British colonies in Australia and North America, where the natives have either ceased to exist, or do not compete with the colonists for the ownership of the soil, are practical instances of the C. in this its proper sense; but there are many other dependencies of the British crown which deviate more or less from the true characteristics of a colony. Gibraltar and Malta, for instance, are mere fortresses, not affording a profitable emigration field for a portion of the home population, but, on the contrary, requiring that such inhabitants of the United Kingdom as reside there shall be specially remunerated for doing so. The support of these dependencies is justified by the warlike, not the economic policy of the country. On the other hand, territories have afforded profitable residence to British people without being colonies; the most conspicuous of this class is the British empire in Hindustan, where people from Britain scarcely hold any land, or concern themselves in the occupation of agriculture, from which the term colonist is taken; but reside as the rulers and defenders of the native races. The ancient migrations of nations—for instance that by which the British islands became peopled, apparently in the first place by Celts, and next by Goths or Teutons—were not colonization in the fullest sense of the term, since the parent-country kept no control over the settlers, and afforded them no protection. The Greeks were a spreading people, carrying with them their genius and their language. They established communities in Asia Minor, on the coast of Africa, in Italy, and in France; for instance, Marseille was a Greek town, founded by the inhabitants of Phocæa about six centuries before Christ. A close connection was maintained between these emigrant communities and the states from which they had removed. Still, none of these districts were colonies, according to the definition given above, and it was one of the many triumphs of the organizing genius of the Romans to form the 'C.' according to its most perfect modern acceptation. The principle of responsibility to a central government was brought to its great-

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est perfection in the policy of Rome, and it was part of this policy that not only every conquered territory, but every district where Roman citizens settled, should be an integral part of the empire. The *colonia* was one of the municipal institutions of the empire, having its own governing corporation dependent on Rome. There were various grades of colonies—some where there was the high privilege of Roman citizenship, and others where the citizenship was of a humbler grade. Corresponding with the consuls in Rome there were municipal officers in the colonies, representing, after the empire was formed, the old republican institutions; these were called sometimes *duumviri*, and sometimes *quatuorviri*—terms whose special application has been matter of considerable discussion. The Romans appointed men of very high rank to the government of their provinces or colonies—men who had held such offices as the consulship or prætorship at home, and were called proconsuls or proprætors. It was a feature of the sagacious jealousy of the Roman system to limit their period of government, lest they should become independent of the empire, and establish separate states; and this idea is followed in the colonial system of the British empire at the present day.

After the fall of Rome, centuries passed before colonization recommenced; for the various tribes who devastated the empire were not connected with any parent state, and the Normans, who spread themselves over Europe at a later period, were utterly unconnected in the countries where they settled, with the government of the northern states whence they migrated. It is curious that not a trace of the genealogy of the Normans of England or France can be found anterior to their settlement in the latter country, so little connection did they preserve with the country of their ancestors. The Spanish and Portuguese were the first among modern European states to establish colonies. Their sovereign aimed not only at the restoration of the Roman empire in Europe, but at the creation of a new empire in America, which was looked on as the exclusive property of the Spanish crown. In carrying out this view, it was not so much that the people of the peninsula went to America, and had the necessary staff of civil and military officers sent to them by the parent state, as that great officers, with high rank and enormous salaries, were sent over to the new empire, and brought followers after them. The other governments of Europe—Britain, France, Holland, and the minor states—subsequently colonized in America and Africa, Denmark occupying the inhospitable shore of Greenland.

The earlier British colonies arose in the reverse order to those of Spain; the colonists went first, the dignitaries followed. Both Raleigh and Drake attempted to form settlements in America, but unsuccessfully. The British race there dates from the reign of James I. of England. The settlers were privileged companies, with royal letters-patent, but, in reality, they were independent; and as they were dissenters seeking a place of refuge from what they

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considered the grievances of the established church and the government, they took care not to convey the grievance with them, as they would have done had they been actually incorporated with the British empire. The northern colonists, indeed, acted as if they were a sort of private corporation, occupying their own territory according to their own taste, and considered themselves entitled to prohibit any person differing from their religious and political opinions from entering their boundary. In later times, the example of Rome was more closely followed by Britain, and it became the policy that any land acquired by British subjects, by conquest or occupation, should be deemed to be held by them for the crown. This was strongly exemplified in New Zealand, where a body of energetic and spirited adventurers had projected something like a new empire, of which they were to be masters. Some of them had purchased large territories for a musket, a barrel of powder, or a piece of red cloth, and thought it hard that they should not be entitled to retain the fruit of their fortunate bargains. The crown, however, stepped in, asserted a supreme authority over the colony, and readjusted all its territorial rights, with a view to doing practical justice both to the natives and the settlers. There are many evils incident to any attempts at independent colonization, among which the chief is the cruelty and rapacity which it is the nature of such private adventurers to exercise against aboriginal tribes, and even against any other communities weaker than themselves who happen to fall in their way. The British colonists of the s. part of the American continent and the islands near, in the 17th c. were robbers and pirates on a large scale, and became memorable in history by the name buccaneers.

Many fallacies regarding colonies have been dispersed by the progress of political economy. It used to be thought, that the support of colonies at any price was an advantage to home trade, since it is more profitable to trade with colonies than with foreign nations, because, among other reasons, they can be compelled, by restrictions and monopolies, to take home goods while the home country takes theirs; while other nations cannot be so compelled. It is now seen that the best trade for the country is that which the individual dealers in it find best for themselves, and they will go where they can trade with most profit, whether to a C. or a foreign nation. It was when the United States were rich and enterprising—not when they were British colonies—that the mother country has driven the greatest trade with them. For a list of the English colonies, see GREAT BRITAIN: for the colonial department, see SECRETARY OF STATE. On the importance of British colonies to the home country, and the necessity of drawing closer the bonds of union between her and them, see Seeley's *Expansion of England*, Froude's *Oceana*, and other recent works, such as *Her Majesty's Colonies* (1886); Bonwick's *British Colonies* (1886).

COLOPHON, n. *kōl'ō-phon* [Gr. *kol'ophōn*, summit, finishing-stroke]: Ionian city of Asia, about nine miles n. of Ephesus, near the sea-coast. It claims to be the native

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city of Homer. The Greek proverb, 'to put the colophon to it,' meaning to terminate an affair, is said to have originated in the boast of the famous Colophonian cavalry, that their *charge* was usually the finishing stroke in battle. Hence, in old printed books, the conclusion, in which were stated the name of the author, and the place and year of printing, was called a colophon.

COLOPHONY, n. *köl'ô-fôn-î* [first brought from *Colophon* in Ionia: Gr. *kolophōniā*]: a dark-colored resin obtained from turpentine: see **ROSIN**, **CHEMISTRY OF: RESINS**. **COLOPHONITE**, n. *köl'ô-fôn-īt*, one of the varieties of iron-imine garnet which have a resinous lustre.

COLOQUINTIDA, n. *köl'ô-kwîn'tî-dá* [the Latinized form of the F. *colocuinte*, colocynth]: the bitter globular fruit, the pulp of which constitutes the medicinal colocynth; used in Shakespeare for **COLOCYNTH** (q. v.).

COLOR, n. *kül'ér* [Norm. F. *colour*, and *colur*—from L. *colōrem*, color: F. *couleur*: It. *colore*]: the hue or appearance that a body presents to the eye; dye or tinge; anything used to give or impart color to a body; a paint; appearance to the mind; false show. **COLORS**, n. plu. *-érz*, flags, standards, or ensigns, which serve in the army as rallying points for infantry: V. to alter or change the outward appearance of any body or substance; to tinge; to dye; to give a specious appearance to; make plausible; to blush; to change from pale to red. **COL'ORING**, imp.: N. the art of dyeing; a specious appearance; the manner of applying colors. **COL'ORED**, pp. *-érd*: **ADJ.** showing color; of African descent. **COL'ORER**, or **COL'ORIST**, n. one who. **COL'ORABLE**, a. *-ă-bl*, specious; plausible. **COL'ORABLY**, ad. *-blŷ*. **COL'ORLESS**, a. destitute of color; transparent. **WATER-COLORS**, colors mixed with gum-water or a size, and not with oil. **COLORMAN**, n. one who prepares and sells colors. **COLORIMETER**, *kül-ér-îm'ě-tér* [L. *color*; Gr. *metron*, a measure]: an instrument for measuring the depth of color in a liquid by comparison with a standard liquid of the same tint. **COLOR-GUARD**, in infantry, a guard of seven corporals with the color-sergeant in each regt., whose place is at the left of the right centre company in the line. **COLOR-PARTY**, the two officers carrying the colors, together with four sergeants. **COLOR-SERGEANT**, a non-commissioned officer in each company of infantry who is responsible to the captain for its interior economy; his rank is higher and his pay better than those of ordinary sergeants, to whose duties he adds that of attending to the colors. **PRIMARY COLORS** (popularly) red, blue, and yellow—(according to recent scientific investigation) red, green, and violet. **PRISMATIC COLORS**, violet, indigo, blue, green, yellow, orange, red. **COLORÉD-FIRES**, compositions, generally based on powder or its components, used in pyrotechny for making various ornamental fire-works, known as *lances*, *stars*, *lights*, *wheel-fires*, *sun-fires*, etc.: see **PYROTECHNY**.—**SYN.** of 'color, v.': to dye; tinge; stain; paint;—of 'color, n.': hue; paint; tint; pigment.

COLOR, in Art: either the pigment employed to produce a certain effect to the eye, or the effect thus produced, i. e., the tint of a picture. For **C.** in the former sense, see the

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titles of the respective colors: CARMINE, CHROME, etc. In the latter sense C. must be regarded by the artist not so much as the result of the application of one or more pigments separately as of their use in the innumerable combinations of which they admit.

Recent investigation tends to regard as simple or primary colors *red, green, and violet*. It is found impossible to resolve red, green, and violet (or blue) light into any other colors; whereas a yellow ray may be resolved into red and green, or compounded by mingling red and green light. But in popular acceptance, as in the scientific works of Brewster and others, the primaries are *red, blue, and yellow*: see CHROMATICS: SPECTRUM: LIGHT: etc. Compounded in various proportions, pigments of the three last-mentioned colors produce every tint that is physically possible, and in this respect may still be called primary. First, when combined in twos, they produce the three colors usually termed *secondary*—that is to say, blue and red make purple or violet; yellow and red, orange; blue and yellow, green. The grays and browns, again, are compounds of all three of the primary colors.

COMPLEMENTARY COLORS are the colors or color which, with any color or colors mentioned, make up the three primary colors that constitute white light. Thus, if the given C. be a primitive, its complementary C. is composed of the other two primitive colors; e. g., the complementary color of blue is orange = red and yellow. Again, if the given C. be a secondary, its complementary C. is the remaining primitive color. Thus, the complementary C. of green—blue and yellow—is red.

CONTRAST OF C. is either simple or compound. Each of the primitive colors forms a simple contrast to the other two. Thus, blue forms a simple contrast to red and to yellow. But if red and yellow be mixed together, the complementary C. to blue will be produced—viz., orange, which is the most powerful contrast that can be made to blue.

HARMONY OF C. consists in the preservation of the same character in a picture throughout, so far as coloring is concerned. It is said to result from an equal distribution of the three primary colors, either pure or in composition; but such a rule, even if correct, is correct with so wide a latitude as scarcely to admit of practical application. The only method of attaining to a knowledge of harmony of C., is to train the eye by the observation of it as exhibited in nature. A southern sky will be found to harmonize with a southern landscape, and, consequently, the colors of which the one is composed with those which compose the other. The experiment may be made by painting an Italian sky over an English landscape, when the want of harmony in the coloring will be at once apparent. The art of preserving harmony without sacrificing variety, resembles that of preserving light in shadow, and combining clearness with depth: see CHIAR-OSCURO.

WARM AND COLD COLORS are terms derived from the corresponding sensations which they are supposed to produce. Blue is said to be a cold C., and orange a warm one, whereas red is neither warm nor cold. Without supposing

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color blindness, however, it seems very possible to imagine that in this respect the same C. may, from association and other causes, produce different sensations on different persons.

A COLORIST is an artist in whose works success in color is the prominent excellence. The greatest colorists are Titian, Correggio, Paul Veronese, Rubens, and perhaps his pupil, Vandyck. To say that these artists surpass Raphael, or even Leonardo da Vinci, in this respect, would probably be to say too much. But that they equal these greater artists in this, and in this respect alone, is a sufficient reason for their being known as colorists *par excellence*. The art of coloring admits of being transmitted to pupils to a greater extent than the highest branch of all.

COLOR, in Heraldry: generally—red, blue, black, green, and purple; which are called gules, azure, sable, vert, or sinople and purpure. Tenne or tawny, and sanguine or blood-color, sometimes occur, but they are not common. Yellow and white are not colors in the heraldic sense, but metals; they are called or and argent, and are represented always by gold and silver. It is a fundamental and invariable rule in blazon not to put C. upon C., or metal upon metal; thus, if the field be of a metal the bearing must be of a C., and *vice versâ*. The only exception is said to be the arms of Jerusalem, which were given to Godfrey of Bouillon, which are *argent, a cross potence or, between four crosslets of the same*. Apparent exceptions to this rule in common blazon are—1. Abatements or marks of cadency or difference, labels, crescents, batons, and the like; and 2. Extremities or adjuncts to animals, or other objects, such as tongues, claws, horns, etc.; but neither of these are regarded as independent bearings. Colors and metals, when engraved, are generally indicated by dots and lines: *or*, gold, by dots; *argent*, silver, is left plain; *gules*, red, is indicated by perpendicular lines from top to bottom; *azure*, blue, by horizontal lines from side to side; *sable*, black, by horizontal and perpendicular lines crossing each other; *vert*, by diagonal lines from right to left; *purpure*, by diagonal lines from left to right; *tenne*, by diagonal lines from left to right, crossed by horizontal lines; and *sanguine*, by lines crossing diagonally from left to right, and from right to left.

COL'OR, in Optics: see LIGHT: CHROMATICS: SPECTRUM.

COLOR: rhetorical term, adopted into the technical language of English pleading, in suits of confession and avoidance; meaning an acknowledgment of at least some apparent right—some *color* of right—in the opposite party. This curious subtilty was set aside by common law procedure act of 1852.

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COLORADO, *kōl-o-rá'dō*: a state, one of the United States of America, the 38th in the order of admission into the Union, and popularly known as the 'centennial state' from the date of its admission, 1876.

Location and Area.—C. is about midway between the Mississippi river and the Pacific slope, and nearly an equal distance between British Columbia and Mexico; or between lat. 37° and 41° n., and long. 102° and 109° w. It is almost a parallelogram in shape, having a direct surface line e. and w. of about 380 m., and n. and s. of 280 m.; and is bounded on the n. by Wyoming Terr. and Nebraska, e. by Nebraska and Kansas, s. by New Mexico and Indian Terr., and w. by Utah. Authorities differ greatly as to its area, ranging in acres 60,000,000—68,000,000, and in sq. m. 103,645—106,475; but the U. S. census (1900) estimated the acreage at 66,332,800, equivalent to the first mileage above given. It was estimated, 1902, that over 4,000,000 acres still remained unsurveyed. C. is divided into 57 counties.

Surface.—Nearly two-thirds of the state is occupied by mountain ranges, averaging 120 m. wide by 140 m. long., and the remainder is divided between foot-hills and plains. The e. portion comprises a part of the plains that was long known as the 'Great American Desert;' the central and w. portions embrace three parallel ranges of the Rocky Mountains which run n. and s. through the state, and yield a mineral wealth of value yet unknown. These ranges are here distinguished by their numerous lofty peaks. The foot-hills have an average elevation of 8,000 ft. above sea level, and the plains of 6,000. Separating the waters of the South Platte and the Arkansas rivers is the 'divide,' also a considerable elevation. The land slopes from the top of the divide toward Denver northerly and toward C. Springs southerly. The streams, E. and W. Cherry creek, and others run n. to Denver and into the Platte; those on the s. slope, being tributaries of the Arkansas s. of C. Springs, run south. The best land on the divide comprises 12 sq. m., and is the only land in C. that can be cultivated surely without irrigation. The divide is like a double-pitch roof; more rain falls there than elsewhere in the state; and there is an abundance of streams and creeks; hence it is almost if not quite without a rival as a grazing region. C. is watered by the Arkansas and the S. Fork of the Platte rivers on the e., by the Bear, Bunkara, and Gunnison on the w., and the Rio Grande on the s., besides the Rio C. and the Grand, Green, and other streams that unite to form it.

The Peaks.—The extreme elevation of the mountain ranges, their wild beauty, and picturesque parks which they inclose constitute this the wonderland of the American continent. The highest peak is that of Mt. Lincoln, first seen from the railroad train going from Kansas City, Mo., to Denver, and from it may be seen 200 peaks, each, nearly 13,000 ft. high, and 25 of 14,000 ft. and over. Of the three ranges the first or e. is known as the C. range, the second or centre as the Park range, and the third or

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w. as the National range. The first extends from Pike's Peak some distance beyond Long's Peak, or about 120 m., and has six peaks over 14,000 ft. in height, Long's, Gray's, Pike's, Mt. Torrey, Mt. Rosa, and Mt. Evans. The second has Mt. Lincoln, 15,000 ft. high and capped with perpetual snow, Quandary Peak, over 14,000, and 20 others over 13,000. The third, about 16 m. w. of the second, has an altitude of 13,000 ft. for a stretch of 50 m.; the principal summits are Mt. Elbert, Mt. Harvard, Mt. Yale, and Mt. La Plata; there are 10 peaks between 14,000 and 14,500 ft. high; the Mt. of the Holy Cross, of which Thomas Moran made his most noted painting, is 13,500 ft. high, and Grand Mountain 14,200.

The Parks.—While the mountain system sparkles everywhere with the most startling beauties, the natural parks lavishly scattered over the area of C. have pre-eminent magnificence. Favored by their enormous dimensions and screened by an uninterrupted envelope of primary mountain edifices, the climatic elements happily blended, they have a perpetual vernal temperature, intense serenity, and a singular beauty. The four main parks, the North, South, Middle, and San Luis, lie between the first and second ranges. The North and South parks, opening toward the Atlantic, are accessible by the channels of the two Plattes and the Arkansas rivers; the Middle and San Luis, sending their waters to the w., are milder in temperature and larger in area than the others. The South is the most extensively occupied; the North, adjacent to and accessible from the line of the Union Pacific railroad, receives attention and population from that direction; the Middle immediately fronts Denver, and is the nearest in locality; and the San Luis, larger than the other three combined, is noted for its mining industry, food production, and great pasturages. Everything in this region is gigantic. In dimensions the South park is 60 m. long by 30 m. wide, area about 2,200 sq. m., with a varying elevation 9,000--10,000 ft.; the North park has an area of 2,500 sq. m., and an elevation of nearly 9,000 ft.; the Middle park, stretching 65 m. n. and s., and 45 m. e. and w., contains Long's Peak, Gray's Peak, and Mt. Lincoln; area 3,000 sq. m., general elevation 9,000 ft.; and San Luis park, an immense elliptical basin, enveloping the sources of the Rio Del Norte, is 210 m. long by 100 m. wide; area variously estimated 10,000--18,000 sq. m., and an elevation under 7,500 ft. In these parks the abundance and variety of hot springs of various temperature is very great. They have also waters of medicinal virtues. Fish, water-fowl, and birds of game, song, and brilliant plumage, frequent the streams and groves, and animal life seems measureless in quantity and abundant in variety. Beside these parks, the Garden of the Gods, 4 m. n.w. of C. Springs, with an area of 500 acres, and Monument Park, 8 m. from C. Springs, present many unique attractions to the tourist.

Climate.—C. has a notably equable climate. The air is drier, and the range of temperature less than in the e. states in the same latitude. The winters are mild, excepting

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on the mountains, and the summers cool and invigorating; and the mildness and purity of the atmosphere on the plains and in the valleys render C. the paradise of invalids. Consumption in its early stage may be cured there, as well as hay-fever, while rheumatism, gout, asthma, and a number of throat and lung diseases may be greatly ameliorated. The mean annual temperature is about 49° F., and the rain-fall, usually confined to the spring months on the plains, ranges from 15 to 20 inches per year. Rain storms, cloudy weather, mists, and fogs are almost unknown, but heavy wind storms are common. The coldest months are Nov. and Dec., and the greatest falls of snow, on the mountains, occur in Sep., Oct., and Apr. In the valleys and on the plains the snow-fall seldom exceeds a foot in depth and soon melts, but many of the peaks wear a perpetual crown of snow. The thermometer seldom falls below zero in the foot-hill and plain regions, and even in midwinter there are days in which the weather is similar to that of a n. summer.

Mines and Mining.—C. ranks first among the states in the amount of silver production, and first in that of gold. Strong efforts were made for several years to secure the admission of the terr. into the Union as a state, and the memorials were accompanied by statistics that showed a marvellous wealth of local industries. A more than usually determined effort was made 1873, but the movement was then defeated by the passage of an act of congress requiring a population of 125,000 in the terr. prior to admission. The statistics of that year are of much value in view of the wealth of C. and its subsequent growth, particularly in its resources in precious metals. The total deposits of gold which had been made at the branch mint at Denver, to 1873, June 30, amounted to \$6,357,275, of which \$5,761,487 represented the product of C.; and the returns from the U. S. mint, branches, and assay-office on account of C. bullion amounted to \$20,574,914, the deposits of the preceding fiscal year being \$1,167,598. If the deposits were reckoned at one-third the total product of the mines, the total yield of gold in the terr. to that date would aggregate over \$60,000,000. The deposits of silver in the various govt. offices on account of C. during the same period amounted to \$1,584,090, the actual development of the prominent silver lodes dating only from 1867. Ten years later C. yielded \$4,100,000 in gold, and \$17,370,000 in silver; (1884) \$4,250,000 gold and \$16,000,000 silver; (1885) \$4,200,000 gold and \$15,800,000 silver; (1902) \$27,502,429 gold and \$9,085,714 silver. The principal counties producing the precious metals are Gilpin, Clear Creek, Boulder, Summit, Routt, Grand, Lake, Chaffee, Gunnison, Park, Rio Grande, San Juan, Hinsdale, Ouray, La Plata, Fremont, Custer, Saguache, Conejos, Costilla, Huerfano, and Las Animas. In 1900 the production of coal amounted to 5,244,364 long tons, valued at the mines at \$5,358,036, a gain of 468,140 tons over the preceding year, and 1901 to 5,700,015 worth \$6,441,891. Coal mining is carried on chiefly in Fremont, Jefferson, and Boulder counties. In copper the yield was 9,801,783

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pounds; in lead 73,265 tons; while of fire-clay about 21,500 tons were mined and burned. Beside these, C. is rich in many other valuable minerals.

Agriculture.—In 1900 there were 9,474,588 acres of land devoted to agriculture, having a market value of \$106,344,035. In 1902 corn was grown on 115,697 acres, and yielded 1,909,000 bushels; wheat on 126,999 acres, and yielded 2,845,439 bushels; oats on 87,959 acres, yield 2,514,480 bushels; rye on 4,615 acres, yield 54,158 bushels; barley on 12,086 acres, yield 331,556 bushels. In 1895, corn was grown on 178,308 acres, yielding 3,690,976 bushels, valued at \$1,513,300; wheat on 119,500 acres, yielding 2,808,250 bushels, valued at \$1,572,620; oats on 98,812 acres, yielding 3,389,252 bushels, valued at \$948,991. The recent great increase both of area under cultivation and of crops produced is due to an extensive system of irrigation. In 1902 the principal crops were corn, wheat, oats, and potatoes, valued at \$9,378,214.

Live Stock.—C. excels as a grazing and dairy country, deriving great advantages from the peculiarities of its nutritious grasses, on which cattle thrive the year round. The live-stock on hand in 1890 numbered 22,594,010. In 1895, there were 1,305,989 sheep, the clip of wool in the same year being 8,233,609 pounds. Alfalfa has proved of the greatest advantage for stock-raising and general farming in this state. In 1903 the live stock numbered 4,980,237, including 2,337,365 sheep, valued at \$5,156,461.

Manufactures, etc.—In 1880, there were 599 establishments with \$4,311,714 capital and 5,074 employees. In 1890, the capital invested in 1,518 establishments was \$26,651,840; 17,067 persons were employed, to whom were paid \$12,285,734 in wages; the materials used cost \$20,848,516, and produced \$42,480,205. The flour and grist-mill products were valued at \$3,898,166 on a capital of \$2,135,085. The product of lumber had a value of \$5,490,652 on a capital of \$2,940,236. Slaughtering and meat-packing gave a product valued at \$2,128,030 on a capital of \$340,150. In 1900 there were 3,570 establishments reported, employing \$62,825,472 capital and 24,725 persons; paying \$15,146,667 for wages, and \$66,886,016 for materials; output valued at \$102,830,137.

Government.—The executive power consists of a gov., lieut.gov., sec. of state, auditor, treas., atty.gen., and supt. of public instruction; the legislative power is vested in a senate to which members are elected for four years, and a house of representatives elected for two years; the judicial power is vested in a supreme court, district co. courts, and justices of the peace. The supreme court consists of three judges elected by the people for terms of nine years, and is required to hold at least two sessions each year at the seat of government. The district courts have original jurisdiction of all causes, both at law and in equity, and such appellate jurisdiction as may be conferred upon them from time to time by law. In each district the judge is elected by the people for six years, and one term at least of the district court must be held annually in each

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county, excepting in such counties as may be attached to others for economic or other reasons. County judges are elected by the people every three years. Woman suffrage prevails, having been adopted in 1893 by a majority of about 5,000 votes.

Education.—The chief supervision of the public schools is vested in a board of education consisting of the supt. of public instruction, who is pres., the sec. of state, and the atty. general. The general assembly is required to provide for the establishment and maintenance of a thorough and uniform system of free public schools throughout the state, wherein all residents between the ages of 6 and 21 years may be educated gratuitously. One or more public schools must be maintained in each school district within the state at least three months in each year, and any such district failing to have such school, shall not be entitled to receive any appropriation of the school funds for that year. The public-school fund consists of the proceeds of the sale of such lands as have been or may be granted to the state by the general govt. for educational purposes; also of other grants, gifts, and devises that may be made to the state for such specific purpose. Should it at any time be deemed necessary, the general assembly may require that every child of sufficient mental and physical ability shall attend the public schools between the ages of 6 and 18 years for a term equal to three years, unless educated by other means. In 1894-95, there were 90,532 children enrolled in the public schools; average daily attendance 60,843; 1,509 school buildings (1893-94); and school property worth \$5,998,937 (1893-94). The total revenue for public-school purposes (1891-92) was \$2,323,754. Besides the public schools there are a state univ. at Boulder, a college of agriculture at Fort Collins, a school of mines and engineering at Golden City, a state normal school at Greeley, a deaf-and-dumb institution at C. Springs, and a state reform school. Other institutions of learning are the University of Denver; Colorado College, at Colorado Springs; Westminster University of Colorado, at Denver; Presbyterian College of the Southwest, at Del Norte; Longmont College, at Longmont; Tillotson Academy, at Denver; St. John's Coll. and Wolfe Hall, at Denver; Jesuit Coll. of the Sacred Heart, at Highlands; also numerous private schools. Value public school property, 1901, about \$6,700,000.

Miscellaneous.—Net debt (1902) \$2,442,171; by constitutional provision the state is interdicted from borrowing money except for special purposes. The state receipts for two years ending 1886, Dec. 1, were \$1,837,395.24, and the expenditures of the same period \$1,515,951.80; amount raised by taxation one year then ending \$534,258.30; amount of taxable property, real and personal as assessed, 1901, \$465,374.288; 1902, \$354,002,501. There are 46 national banks with a paid-up capital of \$4,564,000, and 50 private banks with a capital of \$1,250,000; about 200 churches with property valued at \$450,000, and a membership of over 22,000; 300 post-offices and 55 money-order offices; and 2,884 miles of railroad in operation, which cost over \$90,000,000.

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History.—It is believed that the records of Vasquez Coronado, who commanded an expedition from Sinaloa, Mex., 1540, furnish the earliest account of the region now covered by C. One portion formed a part of the La. purchase from the French, 1803, and the remainder was included in the Mexican concession, 1848. The U. S. govt. sent out an exploring expedition, 1806, under Zebulon M. Pike, who discovered the peak which has since borne his name; a second, 1820, under Col. S. H. Long, and the most important ones, 1842–44, under John C. Fremont. The s. portion of C. was settled first by Spaniards and Mexicans, and a few American hunters, trappers, and traders led nomadic lives there. Gold was first discovered in C., 1852, by a cattle trader at the mouth of the present Clear creek, and W. G. Russell led the first party organized for prospecting, and found gold on Dry creek, near the site of Denver, 1858. The first gold-bearing lode was discovered by John Gregory, 1859, May 6, in the present Gilpin co. The first step toward the organization of a form of govt. by the miners was the erection of Arapahoe co., with co. seat at Auroria. At an election, 1858, Nov. 6, a representative to the Kan. legislature, and the first delegate to congress were chosen. The latter was instructed to secure the separation of the mining district from Kan., and its erection into a territory. In the following autumn a convention was held at Denver, when a memorial to congress for a territorial form of govt. was adopted, and the district became C. Terr., 1860. At the close of the civil war efforts were made to secure the admission of the terr. into the Union as a state, but failed repeatedly till 1875, when, Mar. 3, congress passed an enabling act. Under its provisions a convention assembled in Denver, and after a session of 86 days completed a state constitution, 1876, Mar., which was ratified by the people, July 1. Aug. 1, Pres. Grant issued a proclamation declaring C. to be a state in the Union, and it has since been known as the 'centennial state.'

The first election for state officers under the constitution was held Oct. 3, when a republican administration was chosen as follows: Gov., John L. Routt; lieut. gov., Lafayette Head, sec. of state, William M. Clark; auditor, David C. Crawford; treas., George C. Corning; atty. gen., Archibald J. Sampson. James B. Belford was elected member of congress, and E. T. Welles, Henry C. Thatcher, and S. H. Elbert, judges of the supreme court. The state senate consisted of 19 republicans and 7 democrats, and the house of representatives of 31 republicans and 18 democrats. The new state govt. was inaugurated Nov. 3. On the assembly of the legislature Jerome B. Chaffee and Henry M. Teller, republicans, were elected the first U. S. senators.

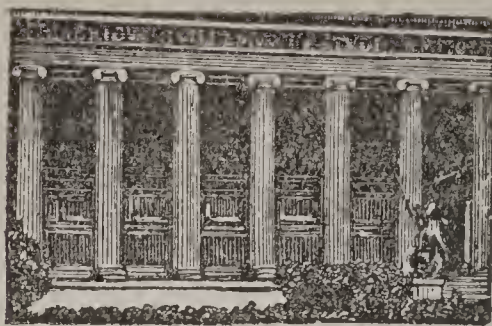
The state officers, 1903, were: gov., Joseph H. Peabody; lieut. gov., W. A. Haggott; sec. of state, James Cowie; auditor, John Holinberg; treas., Whitney Newton; adjutant-gen., G. T. Gardner; atty. gen., N. C. Miller; supt. of public instruction, Helen L. Grenfel. The judges of the supreme court were, chief, John Camp-

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bell; associates, Robert W. Steele; William H. Gabbert; clerk, H. G. Clark. The U. S. senators were T. MacD. Patterson, term ending 1907, and Henry M. Teller, term ending 1909. The representatives were John F. Shafroth, H. M. Hogg, and Franklin E. Brooks was representative at large.

Population.—(1890) 412,198. The most populous *counties* (1890) were: Arapahoe 132,135; Pueblo 31,491; El Paso 21,239; Las Animas 17,208; Lake 14,663; Boulder 14,082; Weld 11,736; Larimer 9,712; Fremont 9,156; Pitkin 8,929; Jefferson 8,450; Conejos 7,193; Clear Creek 7,184; Huerfano 6,882; Chaffee 6,612; Ouray 6,510; and Gilpin 5,867. The most populous *cities and towns* were: Denver 106,713; Pueblo 24,558; Colorado Springs 11,140; Leadville 10,384; Trinidad 5,523; Highlands 5,161; Aspen 5,108; Boulder 3,330; Bessemer, 3,317; Cañon City 2,825; Durango 2,726; Salida 2,586; Ouray 2,534; Central City 2,480; Greeley 2,395; and Golden 2,383. Pop. (1900) 539,700.

COLORADO, RIO—or COLORADO OF THE WEST: great river formed at about 38° n. lat., and 110° w. long. by the junction of the Green and Grand rivers. The Green river rises in the Rocky Mountains in the w. of Wyoming territory, receiving in its s.w. course the waters of the Bear, the White, Uintah, and San Rafael. From Flaming Gorge, a point in the n.w. of Colorado, where the Uintah Mountains rise, the Green river cleaves its way rapidly through 'cañons,' the walls of which tower up to a height of nearly 1,500 ft. (Cañon, sometimes *canyon*, Spanish for tube, is now commonly used in the United States for deep ravines worn by running water.) The Grand river rises in the Rocky Mountains, w. of Denver, Colo., receiving in its s.w. course the South Fork or Gunnison, the San Miguel, and Dolores. After the junction, the C. flows s.w. through Utah, joined on the e. by the San Juan, on the w. by the Dirty Devil and Escalante; s.w. through the n. of Arizona, till its waters are increased by the Colorado Chiquito, or Little C. of Arizona. From the mouth of the Little C. the river bends w., and for the first 200 m. shoot through the wonderful 'Grand Cañon.' The walls of this water-worn trench are often vertical, or nearly so, for a distance of thousands of feet at a time; sometimes they slope steeply, or constitute magnificent terraces. The cliffs or rock-walls attain a height of from 4,000 to 7,000 ft. above the stream, which runs with a varying descent of from 5 to 200 ft. to the mile, and whose channel now contracts to 30 ft. in breadth, and now widens to 300 ft. There are frequent whirlpools and waterfalls. In many parts there is no talus of fallen rocks, still less banks of gravel or earth; but the stream fills the channel from wall to wall. Elsewhere masses of fallen rock from 30 to 300 ft. high line the sides of the rock. Below the cañons the valley opens, and there is much fertile bottom-land on one or both sides of the river. Numerous tributaries pierce the high plateau on either side, the whole presenting a strangely intersected topography. Escaping from the Grand Cañon, the river flows s.w. to the borders



Colonnade.



Grand Cañon of the Colorado, looking up.

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of Nevada, receiving from the w. the Paria, Tapeat's river, and the Kanat (of Arizona), and the Virgen (of Nevada). Above Callville, Nev., the C., as also its tributaries, again bores its way through deep cañons, the sides of which in some places present walls of solid rock nearly 7,000 ft. high; the plateaus at the top of these rock masses, generally treeless, are again surmounted by terraces of 1,000 ft. or more in height. These lower and higher terraces are both piled with massive ruins, once the walled towns and cities of the Toltecs, as is supposed, a race said to be represented by the present Moqui Indians in the n.e. of Arizona. Below Callville the river is again shut in by the last of the cañons, the Black Cañon, 25 m. long, and from 1,000 to 1,500 ft. high. Shortly after receiving the Virgen, the C. takes a s. course, severing Arizona and Sonora on the e. from Nevada, California, and Lower California on the w., and receiving on the e. Bill Williams's Fork and the Gila. After absorbing the Gila, the river sweeps round in a westerly direction for 7 or 8 m., and soon expands to a width of 1,200 ft. Thence it pursues a tortuous course of 180 m., the last portion being through Mexican territory, to its mouth in the Gulf of California. From the sources of the Green river, the C. measures a total length of about 2,000 m. It is navigable for steamers as far as Callville, 612 m. from its mouth, and can be made navigable, it is thought, to the foot of the Grand Cañon, 57 m. higher. At low water (winter), vessels drawing nine ft. can reach only to Arnold's Point, 85 m. up. From the rapid rise of the tide, and the shifting of the channel, navigation is difficult to the head of tide-water, 40 m. from the mouth. The cañons of C. were descended, 1867, by James White, escaping from hostile Indians, sole survivor of a party prospecting for mines; he floated down on rafts of drift-wood, and emerged barely alive. They were descended again, with almost incredible hardships and escapes, in 1869, by Major J. W. Powell, at the head of an exploring party sent by the United States govt. See Powell's *Exploration of the Colorado* (Washington, 1875).

COLORADO RIVER: one of the chief streams of Texas. Rising in the high table lands of Bexar, near the N. Mex. line, about lat. $32^{\circ} 30'$ n., and long. 102° w., it flows s.e., receiving in its upper course the Conca, the San Saba, and the Lano on the s., and the Pecan from the n., and empties into Matagorda Bay. Austin, Bastrop, and Columbus are on its banks, and Matagorda near its mouth: For most of its course it flows through a fertile region, and has an average width of 250 ft. It is a clear stream; its name, meaning red, was originally applied to the Brazos, n. and e., but the two were interchanged. The C. is some 900 m. long, and navigable to Austin or further.

COLORADO (or COBU-LEUBU) RIVER: in the Argentine Republic. It rises in the Andes, abt. lat. $35^{\circ} 40'$ s., flows s.e. through a region not thoroughly known, and enters the Atlantic in lat. $39^{\circ} 51'$ s., long. $62^{\circ} 4'$ w., forming a delta. The chief mouth has two fathoms of water at low tide, and

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six to nine ft. more at high, but is obstructed by sand bars. It is said to be navigable about 120 of its 600 miles.

COLORADO COLLEGE: educational institution at Colorado Springs, Col. It is the oldest institution of higher learning in the Rocky Mountain region, having been chartered in 1873 and opened for instruction in 1874. In 1888, the college was wholly reorganized, and its standard of work brought up to that of the best eastern colleges. It offers full collegiate courses both in the classics and in the sciences; for the latter it affords exceptional facilities; it has an excellent equipment. The meteorological observatory contains a number of self-registering instruments; and the Rocky Mountain region is remarkably rich in the materials and industries that give opportunity for the study of geology, mining, metallurgy, and kindred branches. The college, under Cong'l auspices, is non-sectarian and coeducational. It early gained local favor, and has now a wide repute. It has an associate preparatory school, Cutler Acad., fitting students for the freshman class of any college in the country.

There were (1902) in all depts. 42 instructors and 547 students. The library contained 37,900 vols. The buildings and grounds are valued at \$500,000. President, William F. Slocum, D.D., LL.D.

COLORA'DO POTA'TO BEE'TLE: see POTATO BEETLE.

COLORADO SPRINGS: city of El Paso co., Colo., on the Denver and Rio Grande railroad, 75 m. s. of Denver. The mineral springs are at the base of Pike's Peak, 7 m. w. The town was settled by an eastern co. and called the Fountain Colony; it is on a plain 6,000 ft. high, regularly laid out, with streets at right angles, and planted with cottonwood trees. The mildness of the climate, the attractions of the scenery, and the restorative properties of the air and water, have made it a resort, first for pleasure, and then in much larger degree for health. The place is now crowded with invalids, especially consumptives, from all parts of the United States; these enjoy and are benefited by the clear, rarefied air, which is often found oppressive by persons in full health and newly arrived. The town is filled with hotels, boarding-houses and small one-storied cottages, which are in great demand at high rents; the price of land has advanced rapidly. The census of permanent residents bears slight proportion to the fluctuating numbers of those who are here at any given time. Pop. (1885) 4,563; (1890) 11,140; (1900) 21,085.

COL'OR-BLIND'NESS: term introduced by Sir David Brewster to denominate a defect of vision, owing to which certain persons are either unable to discern a single color, such as red, or to distinguish between two colors, such as green and red, so that they may be said to be blind to red, or to be blind to one or two colors presented simultaneously to the eye. This defect has been called *chromatopsseudopsis*—i.e., false vision of colors; Daltonism, after Dalton the chemist, who suffered under it; and various learned names, have been applied to it; but C. seems as

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apt and expressive a name as any. It occurs in eyes whose power of vision, as to form and distance, is otherwise perfect. The late Dr. George Wilson (see his work, *Researches on Color-blindness*, Edin. 1855) thus classifies the varieties of the defect: 1. Inability to discern any color properly so called, so that black and white—i.e., light and shade—are the only variations of tint perceived. 2. Inability to discriminate between the nicer shades of the more composite colors, such as browns, grays, and neutral tints. 3. Inability to distinguish between the primary colors, red, blue, and yellow, or between these and the secondary and tertiary colors, such as green, purple, orange, and brown. The first sort appears to be very rare, but well-marked cases of it are on record, and show that insensibility to colors is not only compatible with distinct vision in other respects, but is frequently attended by a greater than usual power of perceiving objects very faintly illuminated. None of these recorded cases, however, have been examined with such care as to warrant the conclusion that the C. was absolute. It appears that where the C. is nearly absolute, degrees of luminosity supply the place of shades of color in giving variety to the aspects of objects. The second variety of C., where the nicer shades of the more composite colors are mistaken, appears to be very common

—the rule rather than the exception in the majority of persons, at least of the male sex; but there is doubt how far it may not be referable to imperfect cultivation of the sense of color. In many cases of this kind, however, it can be shown that the defect differs in degree only from that of the third form. The third form is the most important variety of the affection. In extreme cases, though colors are occasionally quite correctly named, there is no certainty as to any color; in less severe cases, two colors, at least, as red and green, and generally four, as red, green, olive, and brown, are not distinguished from each other. Yellow seems to be the color which gives least difficulty to those not absolutely unconscious of color; while blue, if pure and well illuminated, is readily recognized by the color-blind, a few of whom, indeed, describe it as the color which they see best. Red appears to be the color the want of the sense of which may be said to characterize all the color-blind. Indeed, Dr. Wilson thinks C. might properly enough be called *Anerythric* (No-red) vision. He says that while the normal eye analyzes white light into three colored elements, one of which is *red*, the color-blind eye, on the other hand, analyses white light into two elements, neither of which is red.

The eyes of persons having this defect of vision have been carefully examined after death without the discovery of any peculiarity. C. therefore has its seat in the sensorium, not in the visual apparatus.

C. seems very prevalent. Of 1,154 persons, of various professions, examined 1852–53, at Edinburgh, by Dr. George Wilson, 65, or 1 in 17·7, were color-blind; 21 confounded red with green; 19 confounded brown with green; and 25 confounded blue with green. In consequence of this prevalence of the defect, the investigations into its nature

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are of the greatest practical importance. Railway officials, for instance, should always be tested for it, lest, being color-blind, they should mistake the various signals in use on lines of rail, and thus cause accidents.

Sir David Brewster, Sir John Herschel, Prof. Maxwell, and many others, have written on this subject. Perhaps the most ingenious investigator of C.-B. and the phenomena of vision generally, is Prof. Maxwell. See his writings thereon in the transactions of the Royal Societies of London and Edinburgh.

COLOR-HEARING: vision of colors, which in some persons is thought to accompany their perception of sounds. The facts are not yet brought under any scientific rules; they seem to vary with different experimenters. Bleuler and Lehmann have written on the subject.

COLORING, as a Musical Term: applied to those passages and harmonic progressions in bravura airs affording the singer an opportunity of display. It is applied also to all grand harmonic combinations in orchestral compositions.

COL'OR-PRINT'ING: see **POLYCHROME PRINTING.**

COLORS, DIATONIC SCALE OF: a scale of colors corresponding to the diatonic scale of music. Sir Isaac Newton, investigating the properties of light, discovered that the length of the spaces occupied in the spectrum (q. v.) by the seven so-called primary C., exactly correspond to the lengths of chords that sound the seven notes in the diatonic scale of music.

COLORS, MILITARY: certain kinds of flags carried with the army. Standards, banners, pennons, guidons, ensigns, colors—all are military flags, each originally having a distinct meaning, now to some extent departed from. The ensigns were the original of those which are now called C., and which belong especially to infantry regiments. The C. symbolize the good name and fame of the regiment, and are on that account protected in action with sedulous care; a victor always counts among his achievements the number of C. captured from the enemy. When a regiment obtains new C., they are usually solemnly presented by some lady of distinction. The presentation is made with much military pomp.

COLOSSÆ, *ko-lōs'sē*: populous city of anc. Phrygia, on the river Lycos. Its inhabitants were noted for skill in dyeing wool. C. was almost entirely destroyed by an earthquake, A.D. 65. To the Christians of C. the apostle Paul addressed one of his epistles.

COLOSSEUM, n. *kōl'ōs-sē'ūm*: same as **COLISEUM** (q. v.): see also **AMPHITHEATRE.**

COLOSSIANS, *ko-lōsh'ī-anz*, **EPISTLE TO THE:** written by the apostle Paul, probably during his first imprisonment in Rome, 62 or 63 (though some have thought from Cæsarea, a year or two earlier), nearly at the same time with his epistles to the Ephesians, Philippians, and Philemon. Its authenticity has been disputed by Mayerhoff (1838), F. C. Baur (1845), Schwegler (1845-6), and others

COLOSSOCHELYS—COLOSSUS.

of the Tübingen school; their objections based mainly on the similarity between this epistle and that to the Ephesians, and on their peculiarities of contents and of style, have no sufficient critical or historical basis. So Ewald's supposition (1857) that C. was written by Timothy under Paul's instructions is a mere unsupported fancy. Its Pauline origin, abundantly sustained by tradition and internal evidence, has been urged by Bleek (1865), Prof. Lightfoot, and most writers. Whether the apostle had personally founded or visited the church at Colossæ is a matter in dispute, turning on the meaning attached to ii. 1. The occasion of the epistle is comparatively clear. Epaphras had brought Paul word of the false teachers who were misleading the Colossians, and he writes to counteract the influence of their doctrine. He warns against 'philosophy and vain deceit' (ii. 8), against a system of minute observances 'in meat, or in drink, or in respect of an holyday, or of the new moon, or of the Sabbath days' (16), against 'a voluntary humility and worship of angels' (18), against 'will-worship and neglecting of the body' (23), and against prohibitory 'ordinances' (20-22) not founded on the divine command. The apostle's warning indicates the existence in Colossæ of a combination of the familiar Judaizing with a theosophy probably oriental, the beginning of gnosticism. Phrygia was much given to mystic rites and superstitions, and the council of Laodicea, 300 yrs. after the date of this epistle, had to forbid 'angel-worship' there. These speculations may have taken root early in the soil of Essene asceticism. The epistle is of great interest and value as casting light, though obscure and doubtful, on the first appearance of these curious errors in the Christian Church. Against them the apostle erects a definite and lofty Christology, showing that Jesus is the only and sufficient reconciler between God and man. He opens in a vein of earnest, noble, and touching eloquence, not surpassed even by himself, so that to fancy another authorship involves the huge difficulty of supposing a second writer in the infant church of gifts equal to his, and with style and mental processes precisely similar. The close, like that of the epistle to the Ephesians (which may not improbably have been written just after C.), consists mainly of practical precepts. Both were carried to their destination (iv. 7) by Tychicus.

COLOSSOCHELYS, n. *kōl'ō-sōk'ē-līs* [Gr. *kolossos*, a gigantic statue: *chēlūs*, a tortoise]: a name given to the fossil bones and carapace of a tortoise of gigantic dimensions, discovered in the upper Tertiaries of the Sevalik Hills, India.

COLOSSUS, n. *kō-lōs'sūs*, plu. COLOSSI [L. *colossus*: Gr. *kolossos*, a gigantic statue at Rhodes bestriding the entrance of the port: It. *colosso*: F. *colosse*]: a statue of gigantic size. COLOS'SAL, a. very large; gigantic. COLOSSEAN, a. *kōl'ōs-sē'ān*, gigantic.—*Colossus* is a Greek word of unknown origin, used to denote a statue very greatly beyond the size of life. In English the adjective 'colossal' is used in a

COLOSTRUM.

somewhat wider sense, to denote statues which exceed the size of life, in however small degree. Most statues are thus colossal, though few colossi have been erected in modern times. The 'Bavaria' (q.v.) at Munich, and the statue of 'Liberty,' New York, are celebrated examples. The colossal was the peculiar characteristic of Egyptian art, and innumerable colossi were raised in Egypt, mostly of the hardest stone, many of them from 50 to 60 ft. in height. The most celebrated is the vocal statue of Memnon (q.v.), in the plain of Thebes, described by Strabo and Pausanias, and supposed identical with the more northerly of the two existing colossi on the w. bank of the Nile. But it was in the artistic world of Greece that the most famous colossi appeared: e.g., the bronze statue of Pallas Athene on the Acropolis of Athens, the plume of whose helmet and the point of whose spear were landmarks to sailors between Sunium and Athens; another statue of the same goddess, of gold and ivory—the so-called Palladium in the Parthenon at Athens; and the Olympian Jupiter, of the same materials, the master-piece of Phidias, who was the author also of the two statues above mentioned. Among the seven wonders of the old world was reckoned the gigantic C. of Rhodes, representing Phœbus, the national deity of the Rhodians. It is said to have been commenced by Chares, of Lindus, a famous pupil of Lysippus, and terminated by Laches. They formed it of metal, which was cast in separate pieces, a process which continued 12 years, and was completed B.C. 280. Its height is doubtful, some making it 90 ft.; others 90, and even 105 cubits. It cost 300 talents. Sixty years after its erection it was thrown down by an earthquake. The Romans imitated the Greeks in the erection of these gigantic structures. The statue of Jupiter upon the capitol, made from the armor of the Samnites, was so large that it could be seen from the Alban hills. Then there was the bronze statue of Apollo, of which what is supposed to be the head is now in the capitol; a bronze statue of Augustus, in the forum; a C. of Nero, executed in marble, of the enormous height of 110 or 120 ft., from which the contiguous amphitheatre is believed to have derived the name of 'Colosseum' (see AMPHITHEATRE); an equestrian statue of Domitian, in the centre of the forum; and many others.

COLOSTRUM, n. *kō-lōs'trūm* [L.]: the first milk of animals after delivery; yielded after delivery of a child. It differs very materially from ordinary milk, and generally appears as a turbid, yellowish, viscid fluid, similar to soap and water. When examined under the microscope it is found to contain, in addition to the ordinary milk, corpuscles (see MILK), peculiar conglomerations of very minute, fat granules, hence known as colostrum corpuscles. The chief chemical difference between C. and milk is that the former contains nearly three times more salts than the latter. It is probably this excess of salts that usually causes it to exert a purgative effect upon the new-born infant, and thus to remove the meconium (q.v.) which had accumulated in the fetal intestine. The term is applied

COLPENCHYMA—COLT.

also to a mixture of turpentine and the yolk of an egg. COLOSTRIC, a. *kō-lōs'trīk*, pertaining to.

COLPENCHYMA, n. *kōl-pēn'kī-mă* [Gr. *kolpos*, the fold of a garment; *eng'chuma*, an infusion, tissue]: in bot., tissue composed of wavy or sinuous cells.

COLPORTEUR, n. *kōl'pōr-tēr'* [L. *colporteur*, a pedler with a pack on his neck—from *col*, the neck; *porter*, to carry: L. *collum*, the neck; *portārē*, to carry]: a hawker or pedler; in *France*, a hawker of books and pamphlets; one who travels about to distribute and sell religious books. COLPORTAGE, n. *kōl'pōr-tāj'*, also *-tāzh'* [F.]: the trade of a hawker; the system of distribution by colporteurs.

COLQUITT, ALFRED HOLT: 1824, Apr. 20—1894, March 26: statesman and milit. officer: b. Walton co., Ga., son of Walter T. C. He graduated at Princeton Coll. 1844, studied law, and was admitted to practice 1845. He served in the Mexican war on the staff of Gen. Taylor, with the rank of major. He was elected to congress 1859, as a democrat, practiced law, was in the Ga. legislature 1860, and was in the Confederate service through the civil war, rising to be maj.gen. He was elected gov. of Ga. 1876, and re-elected, serving until 1882, when he was elected U. S. senator, and re-elected 1889. In 1893, Mar. 14, he was elected chairman of the senate com. on post-offices and post-roads. C. is a strong temperance advocate and lecturer.

COLQUITT, WALTER T.: lawyer: 1799, Dec. 27—1855, May 7; b. Halifax co., Va. His family removed to Ga.; and he studied at Princeton Coll., but did not graduate. He studied law, was admitted to practice 1820, and lived for a time at Sparta, Ga., and afterward at Cowpens. In 1826 he was elected circuit judge, re-elected 1829; was state senator 1834 and 37. He was elected to congress by the states-rights whigs 1838, left the party, and resigned his seat 1840; and was re-elected as a democrat 1842, serving one year, and then he was elected U. S. senator, serving 1843–48. He supported the Polk administration, opposed the Wilmot proviso, and was a strong defender of states-rights. Having a license as a Methodist preacher, C. often preached in Methodist churches. He was an able criminal lawyer.

COLSTAFF, *kōl'stäf*, or COLESTAFF, *kōl'stäf*, n. [mid. Eng. *col*, *cole*, the neck; *staff*]: a strong staff or pole on which two men carried a burden between them; a stang.

COLT, n. *kōlt* [Sw. *kult*, a young boar, a stout boy]: a young horse, usually limited to the male; a young foolish fellow: V. to be licentious; to run at large without rule; in *OE.*, to befool. COLT'ING, imp. COLTED, pp. *kōlt'ēd*, befooled. COLT'ISH, a. *-ish*, frisky, as a colt. COLT'ISHLY, ad. *-lī*. COLT'S-FOOT, a medicinal herb; the *Tussilāgo fār'fāra*, ord. *Compositæ*, sub-ord. *Corymbif'ēræ*: see TUS-SILAGO.

COLT, *kōlt*, SAMUEL: 1814, July 19—1862, Jan. 10; b Hartford: inventor. He entered his father's factory at ten; was sent to school at Amherst, Mass., 1827, ran away, shipped to Calcutta, and at sea, 1829, made a wooden

model of his revolving pistol. Returning, he studied chemistry, lectured about the country, and gained enough to prosecute his invention, which was patented at home and in England and France, 1835. The Patent Arms Co., with a capital of \$300,000, began to manufacture revolvers at Paterson, N. J., 1835, and its wares contributed to the success of the Seminole war in Fla., 1837; but sales elsewhere were slight, and the co. suspended 1842. Gen. Taylor wanted revolvers for the Mexican war 1847, but all had gone to Texas and the frontier; not one could be procured by advertising, and C. was forced to make a new model. He made 1,000 for \$28,000 at Whitneyville: orders became abundant, chiefly through the emigration to Cal.; C. bought 250 acres at Hartford, protected them from inundation by a dike, and built a large armory 1852, and another 1861. The ultimate expense of these works, with dwellings for the workmen etc., was over \$2,500,000. The weapon came into universal use, and C. gained a large fortune, besides many honors from Europe and Asia. He invented also a submarine battery for harbor defense, and laid an insulated cable from Coney Island and Fire Island to New York. He died at Hartford, where his widow continued the business and erected a church to his memory.

COLTER, or COULTER, n. *kōl'tēr* or *kūl'ter* [OF. *coultrē*—from L. *culter*, a knife, the cutting part: akin to Skr. *krit*, to split: It. *coltro*]: the iron part in front of a plow with an edge that cuts the earth or sod.

COLTON, *kōl'ton*, CALEB CHARLES: 1780–1832, Apr. 28; author. He was educated at Eton and King's College, Cambridge, became a fellow of the latter, and vicar of Kew and Petersham, Surrey. His poems, *Hypocrisy* (1812), *Napoleon* (1812), and *Lines on the Conflagration of Moscow* (1816), attracted less attention than his *Lacon* (1820), a collection of apothegms, of which five editions were sold in one year; a second vol. appeared 1822. But he did not profit by its wisdom; a passion for gaming brought him into debt, and he fled from his creditors to America, 1828. Going to Paris, he wrote letters for the London *Morning Chronicle*, and is said to have won £25,000 at play in two years. Dreading an impending surgical operation, he blew out his brains while visiting a friend at Fontainebleau.

COLTON, WALTER: 1797, May 9—1851, Jan. 22; b. Rutland, Vt.: author. He graduated at Yale 1822, and at Andover Theol. Sem. 1825, taught in an academy at Middletown, Conn., edited the *American Spectator* at Washington 1828–30, and was made a chaplain in the navy by Pres. Jackson. After a voyage to the W. Indies, 1831, he went to the Mediterranean, 1832–35, in the *Constellation*; from this cruise came his *Ship and Shore* (1835), *Visit to Athens and Constantinople* (1836; reprinted 1851 as *Land and Lee in the Bosphorus and Ægean*), and *Notes of France and Italy*, included in his *Remains*. While assigned to the station at Charlestown, Mass., 1837, he edited the *Colonization Herald*, and during his naval chaplaincy at Philadelphia, 1838–45, the *North American*, 1841–42. Sent to Cal. 1845.

he was made alcalde of Monterey by Com. Stockton, 1846, July 28, and two mos. later by popular vote. He founded the first newspaper in Cal. (it was removed to San Francisco, and became the *Alta California*), built the first school-house, and announced the discovery of gold in a letter to the *N. American*. His *Deck and Port* and *Three Years in Cal.* appeared 1850. He returned to Philadelphia 1849, and died there. H. T. Cheever edited his *Literary Remains*, with a memoir (1851).—His brother, Calvin C. (1789–1857), was a voluminous writer, and edited Clay's Letters and Speeches.

COLUBER, *kōl' ū-bēr*: genus of serpents which, as defined by Linnæus, included an extremely miscellaneous assemblage of species, venomous and not venomous, agreeing only in the character of having a double row of plates on the under side of the tail. The venomous species are now excluded, not only from the genus *C.* but from the family *Colubridæ*, of which it is the type. The serpents of this family are very numerous; it includes, indeed, about one-half of all the known serpents in the world. Their geographic distribution is very wide, although they abound chiefly in the tropics. Some are terrestrial, and some arboreal in their habits, the latter chiefly natives of tropical Asia and America. A few are inhabitants of fresh waters, and feed on fish. They are active in the pursuit of their prey, some of them feeding chiefly on small birds and quadrupeds, some on insects. They do not kill their prey by constriction, like the boas. Some of them are singularly and brilliantly colored. A few, particularly of the arboreal species, are remarkable for their extremely lengthened form. None of them grow to a very large size.

To the genus *C.* belong the black snake (q.v.) of America, and the serpent of Æsculapius (*C. Esculapii*), figured by the ancients as an attribute of their god of medicine. It is of a brownish color, and attains the length of four or five ft. It is found in the centre and south of Europe, is easily tamed, and exhibits the greatest gentleness of manners.

COLUBRINA, n. plu. *kōl' ū-brī'nă* [L. *coluber*, a snake; It. *colubro*]: in zool., a division of the Ophidia. COLUBRINE, a. *kōl' ū-brīn*, pertaining to serpents; having the appearance of a serpent; cunning.

COLUBRINA, *kōl' ū-brī'na*. [L. *colubrina*, a plant, called also bryonia and dracontia. This is not the modern botanical use of the word]: genus of plants, ord. *Rhamnaceæ*. *C. fermentum*, a native of Guinea, is called Fermented Snake-wood. Its bitter bark is said to bring on fermentation in the liquors into which it is thrown.

COLUCCIO, *ko-lôt'cho*, SALUTATO: 1330–1406; b. Stignano, Italy: poet. He enjoyed the friendship of Petrarch, achieved fame as a poet, translated much of Dante's *Divine Comedy* into Latin verse, became sec. to Pope Urban V., and subsequently to the Florentine republic.

COLU'GO; see FLYING LEMUR.

COLUMBA, n. *kǒ-lŭm'bǎ*, or **CALUMBA**, n. *kǎ-lŭm'bǎ* [from *Colombo* in Ceylon]: the root of the plant *Coc'culus palmātus*, or *Menisper'mum palmātum*, an excellent tonic, ord. *Menispermācēæ*. See **CALUMBA**.

COLUMBA, *ko-lŭm'ba*, **SAINT** (called also **St. COLUMCILLE** and **St. COLM**): one of the greatest names in the early ecclesiastical history of the British Isles: 521, Dec. 7—597, June 9; b. (it is believed, at Gartan, county Donegal) north of Ireland. His father, Fedhlimidh, of the powerful tribe of the Cinel Conaill, was a kinsman of more than one chief or prince then reigning in Ireland and in the west of Scotland, and his mother, Eithne, also was of royal descent. To this distinguished parentage, no doubt, he owed some measure of his great influence upon the minds of his countrymen.

He studied first at Moville, at the head of Strangford Lough, under St. Finnian, by whom he was ordained deacon; and afterward under another St. Finnian, at Clonard, where he was ordained priest. He is supposed to have had St. Comgall, St. Ciaran, and St. Cainnech among his fellow-disciples; and so conspicuous was his youthful devotion, even in that saintly company, that he received the name by which he is perhaps still best known in Ireland—'Colum-cille,' or 'Columba of the Church.' In 546, when no more than twenty-five years old, he founded Derry, and, six or seven years afterward, Durrow, the greatest of all his Irish monasteries. He seems now to have embroiled himself in the civil strifes of his country; and the belief that he instigated the bloody battle of Cool-drevny, 561, led to his excommunication by an Irish ecclesiastical synod. The justice of the sentence was challenged by ecclesiastics of rank, but it was probably among the causes which determined him to leave Ireland.

It was in 563, when in his 42d year, that, accompanied by 12 disciples, he set sail for the little island of Hy or Ioua, as it was then called—now better known as Iona (q.v.), or I Colum-cille—of which he obtained a grant, as well from the king of the Picts as from his kinsman the king of the Scots. Having planted a monastery here—built, it would seem, chiefly of wattles—he set himself to the great work of his life, the conversion of the Pictish tribes beyond the Grampians. The Picts dwelling s. of that mountain barrier had been converted by St. Ninian of Whithern, in the 5th c.; and the Scots who peopled the w. shores and islands of Scotland were either Christians before they passed over from Ireland, or were afterward converted by Irish missionaries. St. C. now brought the Picts of the north to the true faith; but, unfortunately, very little is known of the way in which he accomplished his task. Bede speaks simply of his 'preaching and example.' Adamnan, extolling his gift of miracles, tells how the gates of the Pictish king's fort burst open at his approach, and how, as he chanted the XLVth Psalm, his voice was preternaturally strengthened, so as to be heard like a thunder-peal above the din and clamor by which the Pictish magicians tried to silence his evening-prayer under the

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walls of the Pictish palace. We get another glimpse of his missionary footsteps from the *Book of Deer*, a Celtic ms. of the 11th or 12th c., lately discovered at Cambridge. It records how 'Colum-cille and Drostan, the son of Cos-reg, his disciple, came from Hy, as God had shown them, to Aberdour' (a beautiful little bay among the huge cliffs which fringe the coast of Buchan, as the n.e. district of Aberdeenshire is still called); how 'Bede, a Pict, was then high steward of Buchan, and gave them that town in freedom for evermore;' how 'they came after that to another town, and it was pleasing to Colum-cille, for that it was full of God's grace; and he asked of the high steward, Bede, that he would give it to him, but he gave it not; and, behold, a son of his took an illness, and he was all but dead, and the high steward went to entreat the clerics that they would make prayer for his son, that health might come to him; and he gave in offering to them from Cloch-in-Tiprat to Cloch-Pette-mic-Garnait; and they made the prayer, and health came to him.' In some such way as this, St. C. and his disciples seem to have traversed the Pictish mainland, the Western Islands, and the Orkneys, establishing humble monasteries, whose inmates ministered to the religious wants of the people. The parent-house of Iona exercised supremacy not only over all these monasteries, but over all the monasteries which St. C. had built in Ireland, and over those which were founded by his disciples in the n. provinces of England when they converted the Angles and the Saxons. 34 years appear to have been spent by St. C. in raising up and perfecting his ecclesiastical system in Scotland. But the labor did not so wholly engross him, but that he found time for repeated voyages to Ireland, and for a visit to Glasgow, where St. Kentigern or Mungo was restoring Christianity among the Welsh or British tribes of Cumbria and Strathclyde. The health of St. C. seems to have begun to fail in 593, but his life was prolonged till he reached his 77th year, when he breathed his last as he knelt before the altar of his church in Iona, a little after midnight, between June the 8th and 9th, 797. He was buried within the precinct of his monastery, and his bones—afterward enshrined—the stone pillar on which he slept, his books, his pastoral staff, and other things which he had loved or used, were long held in great veneration. No composition certainly known to be his has been preserved; but there have been attributed to him three Latin hymns of some merit, a short monastic (or rather heremitical) rule in Celtic, and several Celtic poems, among which is a collection of his prophecies.

The strength of St. C.'s character appears to have been in its earnestness. There is no reason to think that he was reputed either wiser or more learned than the better class of the ecclesiastics of his age. But the same enthusiastic temper which won for him in boyhood the name of 'Columba of the Church' continued to animate him through life. The length and frequency of his fasts and vigils are spoken of as nearly incredible. With this asceticism he combined unwearied industry; no hour

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passed without its allotted duty of prayer, or reading, or transcribing, or other work. As the prevailing austerity of his disposition was often lighted up by gleams of tenderness and kindness, so it appears to have been clouded at times by anger and revenge. 'But whatever sort of person he was himself,' wrote Bede, in allusion probably to these infirmities, 'this we know of him for certain, that he left after him successors eminent for their strict continence, divine love, and exact discipline; men who follow, indeed, doubtful cycles in their computation of the great festival [i.e., Easter], because, in that far out of the world abode of theirs, none had ever communicated to them the synodal decrees relating to the paschal observance; but yet, withal, men diligently observing those works of piety and chastity, and those only, which they were able to learn from the writings of the prophets, evangelists, and apostles.'

The ecclesiastical system of St. C. was so far peculiar that, in the words of Bebe, Iona 'had always for its ruler a presbyter abbot, to whose jurisdiction both the entire province, and the bishops themselves also, contrary to the usual order of things, must own subjection, after the example of that first teacher of theirs, who was no bishop, but a presbyter and monk.' The jurisdiction usually reserved to the episcopate was thus transferred to the abbatial office; little more being left to the bishop than the right of ordination and a certain measure of precedence in the celebration of divine service. St. C. himself, as well as his followers generally, till 716, kept Easter on a different day, and shaved their heads after another fashion, than obtained in other parts of Western Christendom. But, with these exceptions, their creed and rites appear to have been substantially the same.

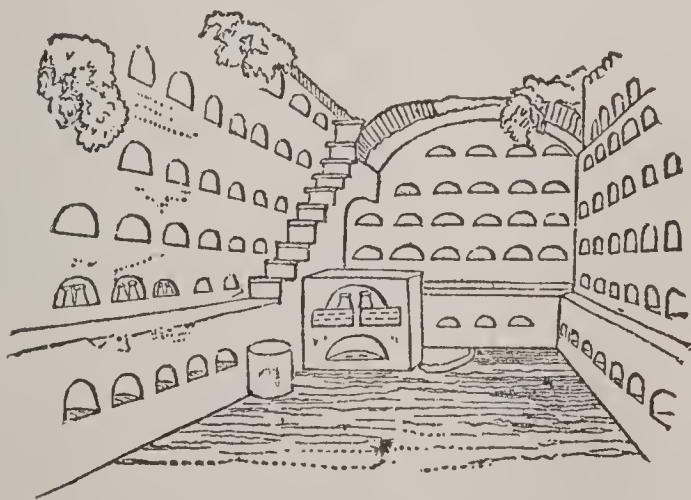
The life of St. C. was written by two of his successors in the abbacy of Iona—Cuimine Ailbe (657–669) and St. Adamnan (679–704). The first of these lives is incorporated in the second, which is altogether one of the most valuable works now extant on the early ecclesiastical history of Scotland and Ireland. It has gone through many editions; the last, and incomparably the best—a book, indeed, beyond praise—being that of William Reeves, D.D., printed at Dublin, 1857, for the Bannatyne Club and the Irish Archæological and Celtic Soc., and included in the series of *Historians of Scotland*, published by Edmonston and Douglas. Besides his *Vita Sancti Columbæ*, Adamnan wrote *De Locis Sanctis*, an interesting account of Jerusalem and its neighborhood, from the information of a French bishop, who, in returning from the Holy Land, was driven among the Western Isles of Scotland. This tract has been more than once printed, and its chief passages were transcribed by Bede in his *Historia Ecclesiastica Gentis Anglorum*. We learn from it that waxed tablets for writing were in use among the disciples of St. C. in Iona, at the close of the 7th century.

COLUMBACEI, n. plu. *kōl' ŭm-bā'sē-ī* [L. *columba*, a dove]: the division of rasorial birds which includes doves and pigeons.

COLUMBAN—COLUMBARIUM.

COLUMBAN, *ko-lŭm'ban*, or **COLUMBANUS**, *ko-lum-bā'nus*, SAINT: one of the most learned and eloquent of the many missionaries whom Ireland sent forth to the continent during the Dark Ages: abt. 545—615, Nov. 21; b. Leinster. Having studied under St. Comgall, in the great monastery of Bangor, in Ulster, he passed over to France, in his 45th year, accompanied by 12 companions, and founded the monasteries of Annegray, Luxeuil, and Fontaine. His adherence to the Irish rule for calculating Easter involved him in controversy with the French bishops about 602; and, a few years later, the courage with which he rebuked the vices of the Burgundian court led to his expulsion from France. Passing through Switzerland into Lombardy, he founded, 612, the famous monastery of Bobbio, in the Apennines, where he died. His life, written, within a century after his death, by Jonas, one of his successors in the abbacy of Bobbio, has been repeatedly printed. The writings of St. C., which are wholly in Latin, consist of a rule for the government of his monastery, a few poems, several letters on ecclesiastical affairs, and 16 short sermons. His monastic rule has been printed more than once; but the most complete edition of his works is in Fleming's *Collectanea Sacra*, published at Louvaine, 1667, and now of such rarity that a copy of it sells for about \$175. Of the sermons of St. C., M. Guizot remarks that 'the flights of imagination, the pious transports, the rigorous application of principles, the warfare declared against all vain or hypocritical compromise, give to the words of the preacher that passionate authority which may not always and surely reform the soul of his hearers, but which dominates over them, and, for some time at least, exercises paramount sway over their conduct and their life.' The town of San Colombano, in Lombardy, takes its name from the Irish monk, as the town and canton of St. Gall (q.v.), in Switzerland, perpetuate the name of the most favored of his disciples.

COLUMBARIUM, *kŏl-um-bā'ri-ŭm* [see COLUMBINE]: dove-cot or pigeon-house. When used in the singular, C.



also signified a particular kind of sepulchral-chamber used by the Romans to receive the ashes of bodies which had

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been burned. The name was derived from the chamber being surrounded by small niches or holes resembling the holes in a dove-cot (*Columbaria*) in which the urns (*ollæ*) were deposited. Tombs of this description were used chiefly by great families for depositing the ashes of their slaves and dependents. Several of them are still to be seen at Rome. The annexed wood-cut (copied from Smith's *Dictionary of Greek and Roman Antiquities*) represents a very perfect one discovered at the Villa Rufini, about 2 m. beyond the Porta Pia, 1822. In each niche were two urns, with the name of the persons whose ashes they contained inscribed over them.

COLUMBELLA, n. *köl-üm-běl'la* [dim. of *L. columba*, a dove]: genus of mollusks, family *Buccinidae*; small pretty-marked shells, with a long narrow aperture, a thickened and dentated outer lip, a crenulated inner one, a small lamellar operculum. Recent species known 205, fossil 8. The former are from the subtropical and tropical parts of the old and new worlds; the latter from the Tertiary.

COLUMBIA: name long applied to the region w. of the Rocky Mountains, comprehending the present state of Oregon (q.v.), the territory of Washington (q.v.), and British Columbia (q.v.).

COLUMBIA: borough of Lancaster co., Penn., on the Susquehanna river, and on the Pennsylvania railroad, 80 m. w. of Philadelphia, 12 m. w. of Lancaster, and 28 m. s.e. of Harrisburg. By the Reading and Columbia railroad it is 46 m. w.s.w. of Reading, and by the Port Deposit railroad 44 m. n.w. of Port Deposit, Md. The Northern Central railroad connects it with York, 11 m. s.w., by a bridge $11\frac{1}{2}$ m. long, across the river. C. was laid out 1788, and incorporated 1814. It has 13 churches, 3 newspapers, a school library, an opera-house, 3 national banks and 1 private bank, and numerous mills, foundries, machine-shops, and manufactories, some of great size. C. is the centre of a rich farming region, and of a trade in lumber which is brought down the river in rafts. Water is supplied from the Susquehanna, which is here dotted with islands. The borough is the seat of Franklin and Marshall College (Ref.). Pop. (1870) 6,461; (1880) 8,312; (1890) 10,599; (1900) 12,316.

COLUMBIA, cap. of S. Carolina, in Richmond co., on the e. bank of the Congaree river, a little below its junction with Broad river, about 135 m. n.w. of Charleston. It is the terminus of the navigation of the Congaree, and of three railways that connect it with Charleston and the coast. Before the war of secession it was one of the handsomest cities of the southern states, but it suffered largely during the conflict, having had its principal parts destroyed by fire. The state-house, of granite, has a fine location near the centre of the city. The old state-house with a library of 25,000 vols., and several other important buildings, also an immense amount of cotton and other property, were burned in a conflagration at the evacuation of the city by the Confederate forces. The Union military

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authorities assert that the fire was started purposely and had spread beyond control before the entrance of their troops into the city: the Confederate authorities have been understood to deny this. The city stands amid fine scenery, is well laid out, and has considerable manufacturing industry. C. is the centre of a rich agricultural district, and has forests of pine, oak, walnut, and maple in its vicinity which produce much timber. It has several educational and other institutions, including S. Carolina Univ., founded 1804. Pop. (1870) 9,288, half of whom were colored; (1880) 10,040; (1890) 15,353; (1900) 21,108.

COLUMBIA, *kō-lūm'bī-a*, or OREGON: largest stream whose mouth is on the w. coast of the United States; rising in the Rocky Mountains, draining that range by its different head-waters, from about lat. 54° n. to about lat. 42° n. Its two main branches—the C. Proper from the n.n.e., and the Snake from the s.e.—meet about lat. $46^{\circ} 5'$ n., long. $118^{\circ} 55'$ w., and united run together to long. $124^{\circ} 5'$ w., where they empty themselves into the Pacific in a latitude corresponding with that in which they joined. This great river, long vaguely believed to exist, was not discovered till 1792. Its discoverer was Captain Gray of Boston, who gave it the name of his own vessel in place of the floating appellations of the Oregon and the San Roque. The extreme length is rather more than 1,200 m.; most of its course—all but the upper part of the n. branch—being within the limits of the United States. Nevertheless, the entire navigation is open equally to British and Americans, though the navigation is of comparatively little value, particularly to the British. The river is broken by falls and rapids into many separate portions; and of these, even the most important portion, the maritime reach, does not exceed 90 m. The ingress and egress are embarrassed by a surf-beaten bar. Still, as a harbor, the C. is decidedly the best on the coast between San Francisco, nearly 600 m. s., and Port Discovery, 150 m. n. The extraordinarily abundant salmon-fisheries of the C. have been largely developed of late; there are near 40 canneries for putting up salmon for market, mostly at Columbia, at the mouth of the river. In 1882, 535,000 cases of canned salmon were packed.

COLUMBIA, BRITISH: since 1871 a province of the Dominion of Canada; in two divisions—the mainland, commonly called British C.; and Vancouver's Island (q.v.). These formerly independent colonies were united 1866. Total area (including Vancouver's Island with its 16,000 sq. m. of surface) is officially stated at 383,300 sq. m. The province borders on the United States and on the Canadian n.w. territories. In 1858 the n. limit was the parallel 55° n., and the total area 120,000 sq. m. Now it extends between lat. $48^{\circ} 20'$ and 60° n., and long. 113° – 136° . As Vancouver's Island has a separate article, and the n. section is scarcely occupied, the present article concerns chiefly the mainland sections s. of 55° n. lat.

Running parallel with the Rocky Mountains on the e.

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border, which rise, in Mount Browne, to a height of 16,000 ft., two ranges divide the width of the country into three sections of drainage. In the e. are head-waters, which find opposite outlets in the estuaries of the Columbia and of the Mackenzie; through the entire middle and part of the east, the Fraser maintains a southerly course, till, at Fort Hope, it is bent sharply to the right by a mountain barrier, so as to enter the Gulf of Georgia barely within the international boundary;* and lastly, across the w., a series of streams, generally meeting long and narrow inlets of the ocean, and terminating in the Skeena, which, with its upland reservoir, Babine Lake 100 m. in length, is but little inferior to the Fraser itself. The principal harbors are Burrard Inlet, on the Gulf of Georgia, a few miles from New Westminster, and the chief port for the lumber trade; Howe Sound, n. of Burrard Inlet; Bute Inlet, farther n.; Millbank Sound, which will become valuable as the gold mines on the Peace river attract population; the river Skeena, now ascended by steam-vessels, and one of the routes to the Ominica gold mines; and the river Nass, near the frontier of Alaska, watering a region also believed to be rich in gold.

The interior of British C., i.e., the region between the Cascade Range and the Rocky Mountains, is, on the whole, rugged and lofty, and though rivers are numerous, they do not serve the purposes of irrigation, being often confined within deep ravines. Still the tracts of arable land are of considerable extent, and very fertile. In 1872, some land 1,700 ft. above the sea-level, yielded, under proper irrigation, 40 bushels of wheat per acre. The pastures of British C. are, however, likely to prove much more valuable than its arable ground. They are almost endless in extent. On the Cariboo road (between Soda creek and Quesnel) there is a plain 150 m. long. and 60 or 80 wide; and between the Thompson and Fraser rivers there is an immense tract of grazing land. The hills and plains are covered with bunch grass, on which the cattle and horses live all winter, and its nutritive qualities are said to exceed the celebrated blue grass and clover of Kentucky and Virginia.

The forest lands also are of vast extent, and yield most valuable timber. The principal trees are the Douglas pine, Menzies fir, yellow fir, balsam hemlock, white pine, yellow pine, cedar, yellow eypress, arbor vitæ, yew, oak, white maple, arbutus, alder, dog-wood, aspen, cherry, willow, and cotton-wood. The Douglas pine is almost universal on the sea-coast and up to the Cascade Range. The cedar, white pine, and maple are found everywhere; the Scotch fir, the willow, and cotton-wood on the bottom-lands. But the timber trade is not yet fully developed; the value of the

* The decision of the German emperor (1872, Oct. 21), as umpire on the *San Juan Boundary Question*, affirmed the accuracy of the American interpretation of the treaty of 1846, in virtue of which the boundary of the United States runs through the Haro Channel, and the San Juan archipelago, lying between Vancouver's Island and the mainland, and commanding the outlet to the Pacific, has been assigned to the United States.

exports, 1882, amounting to about £73,000. The Fraser river and its tributaries, with the numerous lakes communicating with them, furnish great facilities for the conveyance of timber. The lower Fraser country especially is densely wooded. Smaller streams, and the numerous inlets and arms of the sea, give communication for the region farther north.

The *fisheries* of British C. are among the richest in the world, and have, though only in recent years, been largely developed in some departments. Whales and seals abound off the n. coasts. Sturgeon are plentiful in the rivers and estuaries; they are found weighing over 500 lbs., and are easily caught. The salmon of the Fraser river are famous over the American continent, and are now extensively canned. About 80,000 cases of tinned salmon (=9,000,000 lbs.) were exported to England, 1882. In 1900 the fish product of the province was valued at \$4,878,820. Cod, herring, halibut, etc., abound.

The attractiveness of mining is a hindrance to the regular development of the other resources of the province. Copper, lead, cobalt, talc, platinum, cinnabar, and agate occur; silver has been obtained in considerable quantities. Gold may be said to be universally diffused. New mines were opened, 1871, in the north, in the Peace and Ominica district. The total yield for the province, 1875, was about £500,000, but in 1885 it had fallen to about £200,000 yearly; the total yield of the mineral products, 1899, was about £4,000,000. The only obstacles to the prosecution of almost inexhaustible gold-mining are the lack of roads, of capital, and of a thorough geological survey. Silver mines have been opened in the Fraser valley. Coal and iron also are found. Furs are among the most important products of the country, the value of the exports of that article in some years being above £60,000. The most valuable are the black and silver fox, sea otter, red fox, fur seal, mink, martin, beaver, and common otter. Buffalo are found on the plains; bears, goats, and sheep on the mountains; elk on the coast, and deer on the groups of small islands; wild ducks and geese, grouse and snipe abound; and a kind of tall buff crane, 4—5 ft. high, inhabits the plains.

The *climate* varies according to the locality, owing principally to four causes: (1) greater or less distance from the sea; (2) greater or less distance from the mountain regions; (3) difference in the variety and growth of vegetation; (4) difference of level. The low portions near the sea and on Vancouver's Island have a moderate climate, with a temperature ranging from 20° in winter to 80° in summer. The spring is short, lasting from the beginning of March to the early part of May. A short spring lasts from March till May; summer, from May till Sep.; the next two months are autumn, of which winter is merely an aggravation, the snows being light, and the frost far from severe or lasting.

To its mineral resources, mainly, British C. owes its present position. It was the discovery of gold, 1857—coinciding as it did with the expiration of the Hudson's Bay company's licensed monopoly—that led to the establishment

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of the colony, 1858, and that has since drawn flocks of adventurers from the United States, from Great Britain and its dependencies, and from China. In 1894 the value of the exports of B. C. was \$5,642,797; the imports aggregated \$4,936,060. Salmon-fishing is an important industry of the province, and in 1894 the pack was valued at \$3,541,374. The coal of Nanaimo, Vancouver's Island, has a great reputation on the Pacific coast, and is shipped in large quantities to San Francisco. The completion and opening of the Canadian Pacific railway, 1886, has proved of immense importance in the development of the province. The terminus is Vancouver City, on Coal Harbor, near the entrance to Burrard Inlet. According to the census 1871, the total pop. was 10,586, exclusive of Indians, estimated at 30,000 to 50,000, but whose numbers are diminishing from small-pox, measles, and tribal wars. The census (1901) showed total pop. 177,272. The cap. of the province is Victoria (q.v.) on Vancouver's Island (pop. [1901] 20,816), and the chief town on the mainland, New Westminster (pop. 6,499).

British C. is represented in the Canadian parliament by three senators and six members of the house of commons; but it has also a local legislature, a lieutenant-governor, and an executive council. See CANADA: VANCOUVER'S ISLAND: etc.

COLUMBIA DISTRICT OF: see DISTRICT OF COLUMBIA.

COLUMBIA UNIVERSITY: the most notable educational institution in New York. The funds for its foundation were raised by a lottery authorized by the legislature 1746, and in 1751 amounted to £3,444. The money was vested in a board of trustees who elected Dr. Samuel Johnson of Stratford, Conn., the first pres., 1753. In the following year the institution was chartered as King's College, and soon afterward it received from Trinity Church a donation of the plot of ground bounded by Barclay and Murray streets and Church street and the North river. According to the charter the college was to be governed by a board of trustees, consisting of the abp. of Canterbury, a number of provincial officers, ministers representing the five leading denominations in the city, and 24 private citizens. Of the original trustees, seven were members of the Church of England and several vestrymen in Trinity Church. The representation of the Episcopal Church in its government at the the start and since has led many to regard it as a purely denominational institution, but its teachings have never been sectarian. The erection of a suitable building on its ground was begun, and the corner-stone laid 1756, Aug. 23. In 1760, May, it was sufficiently advanced to permit the teachers and students to sleep and eat there, Pres. Johnson having formed the nucleus of a school in a building owned by the church 1754, July. The first building formed what was for many years the central part of the cluster on Park Place, and its cupola was surmounted by an iron crown, in honor of King George II., which is still reverently preserved in the new structure. Pres. Johnson was succeeded by Myles Cooper,

S.T.D., LL.D., 1763, who served till 1775. He was a strong
 tory, made himself obnoxious on account of his political
 opinions, and through fear of popular violence fled to
 England, 1775, May 10. He was succeeded by Rev. Benjamin
 Moore, but in 1776, May, the college building was converted
 into a hospital, and students and teachers dispersed.
 During the war a large quantity of valuable apparatus and
 books were stolen or destroyed. The operations of the
 college were resumed 1784, May, when an act of the legis-
 lature changed the name to C. C. and placed the institu-
 tion under the control of a body of officers which were
 styled the Regents of the University. Rev. W. Moore was
 pres. 1784-87, and was followed by Rev. Dr. William
 Samuel Johnson, son of the first pres., who served 1787-
 1800. Rev. C. H. Wharton, D.D., LL.D., presided a few
 months, 1800, and after his resignation Rev. Benjamin
 Moore, who had become Prot. Episc. bp. of New York,
 was recalled. Under his administration the building was
 altered and enlarged. He was succeeded, 1811, by Mr.
 Harris, who served till 1829. It was during his presidency
 that the institution came into possession of a tract of
 about 20 acres lying between Fifth and Sixth avenues and
 Forty-seventh and Fifty-first streets, formerly a noted bo-
 tanical garden, owned and laid out by Dr. David Hosack,
 and filled with plants from all parts of the world. He made
 grant of it to the college, 1816, on the condition that the
 college should be removed thither within 12 years, but five
 years afterward this condition was rescinded. Further
 alterations were made to the building, and two wings for
 professor's dwellings, a new library, and a chapel were
 erected during Dr. Harris's tenure. Hon. William A. Duer
 was the next pres., 1829-42, and under him changes were
 made in the curriculum, and the scientific and literary
 course was established. Dr. N. F. Moore succeeded Judge
 Duer, serving till 1849, when Charles King, LL.D., became
 pres. and continued till 1864, the beginning of Pres. Bar-
 nard's long and distinguished term. About 1850, the
 trustees divided the botanic-garden property into lots and
 disposed of many of them on long-running ground-rents.
 This action and the desire of the city to extend Park Place
 through the college grounds renewed the agitation in favor
 of a removal, and at length the trustees selected the build-
 ings formerly used by the State Institution for Deaf Mutes
 on Forty-ninth street and Fourth avenue, on account of
 their accessibility and retirement. New buildings were
 erected on the block bounded by Fourth and Madison
 avenues and Forty-ninth and Fiftieth streets, and the col-
 lege took possession of its new quarters, 1857. Since then
 alterations, improvements, and enlargements have been
 made as the progress of the institution demanded. Of its
 professional departments, the medical school is the oldest.
 It was established 1767, and conducted till 1813, when the
 New York College of Physicians and Surgeons was founded
 and the school of the college merged into it. In 1860, the
 College of Physicians and Surgeons became the medical
 dept. of C. C., thus making the existence of the medical

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school virtually continuous since 1767. The second in age is the law school or dept., established 1858. Chancellor Kent was the first prof. in this dept., and was succeeded by William Betts, LL.D. The third school, called the School of Mines, was established 1863, and placed under the charge of Prof. Charles A. Joy, who had previously been at the head of a school of chemistry. In it mining engineering, civil engineering, metallurgy, geology and natural history, analytical and applied chemistry, and architecture are now taught. A school of political science was opened 1880, and subsequently Melvil Dewey, chief librarian, established the School of Library Economy, which was afterward removed to the State Library. The formation of the library was begun 1754, and in time each dept. or school had its own collection. These were all grouped into one general library, 1883, for which a new building was erected; and the library now numbers nearly 90,000 volumes. The 100th anniversary of its charter under its present name was observed with much enthusiasm, 1887, Apr. 13. At that time it had 5 faculties, over 60 professors and instructors, and 1,600 students. Anxious to complete a continuous service of 25 years and conscious of growing debility, Pres. Barnard spent the winter 1887-8 in the south; but his infirmities so increased that he felt constrained to resign his office 1888, May 7. He survived his resignation less than a year, dying 1889, Apr. 27. On Oct. 7 following, Seth Low, LL.D., ex-mayor of Brooklyn, was chosen pres., and was installed 1890, Feb. 3.

One of the first official acts of Pres. Low was to arrange a plan of proper univ. organization. As a result there are now university faculties of law, medicine, mines, applied science, political science, philosophy, and pure science. Each has its special function and each sends two delegates to the univ. council, which has general supervision over the whole. The trustees adopted 1896, Feb. 3, a resolution formally changing the title of the corporation from 'Columbia College' to 'Columbia University.'

It became evident in 1891 that the growing needs of the college would necessitate enlargement of its facilities. Investigation resulted in the purchase, at a cost of \$2,000,000, of a new site of about 18 acres in the upper part of Manhattan Island. It lies in the form of an unbroken rectangle on the crown of the island midway between Riverside and Morningside parks. Its boundaries are 116th and 120th streets, Amsterdam ave. and the Boulevard.

The change was made to the new buildings, 1897, Oct. Six buildings were ready for use at that time. The largest building is the University Hall, containing the gymnasium, baths, and power-house for the entire site. In the upper portion will be the academic theatre, seating 2,500 people, and the alumni memorial dining-hall, accommodating 600 persons.

The Library building is the gift of Pres. Low as a memorial to his father. Each department has its own working laboratory of books. It contains 230,000 vols., besides pamphlets and duplicates; and the collection is constantly growing. Other buildings are Schermerhorn Hall, used

for geology, mineralogy, botany, psychology, and zoology; Physics Building; Havemeyer Hall, used for metallurgy, chemistry, and architecture; and the Engineering Building.

West of the univ. grounds stands Barnard College. This was incorporated 1889, by the regents of the state of New York, as a college for women. In 1900, Jan., it became part of the university; courses of study are the same as at Columbia, and Columbia makes itself responsible for Barnard's students by conducting all examinations and granting degrees to graduates. In the senior and graduate years certain courses of Columbia are open to Barnard students.

The Teachers' College is a professional school for the training of teachers, founded 1889. Since 1893 it has been in part under the supervision of C. U., which grants all degrees. The building faces the university grounds on the north.

In 1891, the College of Physicians and Surgeons became by authority of the state legislature a part of C. U. It occupies a group of buildings on Tenth ave. between 59th and 60th streets.

C. U. grants 25 university fellowships of \$500 a year, and two of a larger sum, also 30 scholarships of \$150 annually each, besides numerous prizes and medals. The average annual cost for a student is estimated from \$380 to \$900 and upward. This includes \$150 for tuition. In 1902 Nicholas Murray Butler succeeded as president Seth Low, resigned, 1900. In 1902 there were 442 professors and instructors and 4,733 students. The students of Barnard numbered 400.

COLUMBIAD, *ko-lŭm'bi-ad*: species of heavy cannon, combining qualities of the gun, howitzer, and mortar, invented by Col. Geo. Bomford (1780-1848), and used in the war of 1812, chiefly for U. S. coast defense. They were introduced with little change into the French service, and called Paixhan guns. The howitzer shell-gun, as remodelled 1844, received this name: the Rodman form was applied 1861 to the C. and other heavy guns.

COLUMBIAN, a. *kō-lŭm'bi-ăn* [from *Columbus*, the discoverer of Amer.]: pert. to the United States or to America. COLUM'BITE, n. *-bit*, a mineral of agrayish or brownish-black color, occurring in single crystals and in small crystalline masses, first discovered in Amer. COLUM'-BIC, a. *-bik*, pertaining to or produced from the metal, columbium. COLUM'BIUM, *-bi-ŭm*, or TAN'TALUM (symbol Ta): rare metal found in the mineral tantalite, obtained from Bodenmais, in Bohemia, and from Sweden. It can be obtained as a black powder, which assumes a lustrous aspect when subjected to burnishing. It forms a series of compounds, of which only Columbic Acid (TaO_3) is worthy of notice. COLUM'BATE, n. *-bāt*, a salt of columbic acid,

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COLUMBIAN EXPOSITION, commemorating the 400th anniversary of the discovery of America by Columbus, was held from May 1 to October 30, 1893, at Jackson Park, which covers 633 acres on the lake front at Chicago, Ill. It was the fourteenth of the great World's Fairs, and the third held in the United States. There was but little interest taken by the United States in the first of these World's Fairs, which was held in London, England, in 1851, there being but 499 American exhibits, while the total number of visitors from the United States was only about 5,000. It was while attending this exhibition, however, that the plan of holding an international exhibition in New York city was determined upon, resulting in the World's Fair, which was opened by President Pierce in the Crystal Palace at New York, July 14, 1853. At this exhibition there were 4,100 exhibitors, more than half foreign. The building was two stories in height, the first story octagonal, the second in the form of a Greek cross, and surmounted by a dome 148 ft. high. Including the annex the building covered 263,000 square ft. Its cost and the expenses of the Fair aggregated \$640,000 against total receipts of \$340,000, showing a loss to stockholders of \$300,000. The Centennial Exhibition held at Fairmount Park, Philadelphia, Penn., in 1876, was on a scale commensurate with the growth of the United States. There were 6 main buildings covering an area of 56 acres, and 30 foreign nations besides Great Britain and her colonies, were represented. The total admissions were 9,910,966, the largest attendance being on Pennsylvania day, 274,919. Total receipts, \$3,813,724.49. The money for this World's Fair was raised by private subscription from all parts of the United States. The U. S. government appropriated \$728,500 for a government exhibit, and congress granted a loan to the Centennial commission of \$1,500,000, which was afterward repaid.

Wonderful as the World's Fair of 1876 seemed at the time, the Columbian Exposition of 1893, in many ways, was as great an advance as was the Centennial upon the exhibition in the Crystal Palace at New York in 1853.

The Grounds.—The marvellous and rapid growth of the wonderful White City was the development of a primary plan submitted in December, 1890, by Messrs. F. L. Olmsted & Co., who were appointed consulting landscape architects in August of that year. This plan contemplated small lakes, lagoons, and basins within the park, joined by canals, so laid out as to give each of the main buildings a water front easily reached from the lake. This plan not only added to the attractiveness of the park and comfort of visitors, who were enabled to reach almost any part of the grounds by means of electric launches or Venetian gondolas, but also had a practical side—the earth removed in the construction of these artificial waterways being utilized in elevating the grounds and establishing the proper grade. These waterways occupied 61 acres. Ground was broken in February, 1891, at which time

Jackson Park was mainly marshes and oak ridges. Grading and dredging was completed in July, 1891, at a cost of \$495,000; and in the preparation of the grounds 1,500,000 cubic yards of material were handled.

On approaching the Exposition grounds, the most conspicuous object was the gilded dome of the Administration building—the official headquarters of the Exposition, and the architectural gem of the Exposition palaces. It was situated near the south end of the grounds, and at the west of the so-called Central Court, about which were grouped five of the principal buildings. This Central Court was an open space about one-half mile in length, extending east and west across the park, the Terminal Railway station with its 35 tracks forming the west end. The Administration building stood next east of the Terminal station, and the west half of the court was occupied by a basin covering $10\frac{1}{2}$ acres, connected with Lake Michigan by a water gate, through a magnificent peristyle 600 ft. long, 60 ft. wide, and 60 ft. high, flanked on the north by Music Hall and on the south by the Casino. From the Casino a pier 2,300 ft. in length by 250 in width, extended out into the lake. Upon the pier was the moving sidewalk—a mechanical contrivance consisting of 2 endless walks side by side, moving in the same direction, one at the rate of 3 miles per hour, from which a person could step onto the other moving at 6 miles per hour. The portion of the park south of this open court was occupied by Machinery Hall, covering with its annexes about 18 acres; the Agricultural building and annexes, 13 acres; Live-stock pavilion and sheds, $43\frac{1}{2}$ acres; the Dairy, Anthropological, and Forestry buildings, besides many smaller structures, including the shrine of the Exposition—the Convent of La Rabida. Directly north of the Administration building were the Mines and Mining and the Electricity buildings, occupying about $5\frac{1}{2}$ acres each; and north of these, at about the centre of Jackson Park, connected with the basin by a canal, was the lagoon which, with its inclosed Wooded island, covered 39 acres. Between the canal and lagoon and the lake, north of the basin, stood the Manufactures and Liberal Arts building, the largest building in the world, occupying $30\frac{1}{2}$ acres. North of this were the United States Government building and the Forestry building; and upon a tract of about 100 acres, at the north end of the park, were located the various state and foreign buildings, grouped around the Gallery of Fine Arts, which, with its two annexes, covered $4\frac{1}{2}$ acres. Beginning at the Terminal station and going north on the west side of the lagoon, were located the Transportation building, occupying, with its annex, $14\frac{1}{4}$ acres; the Horticultural building and eight greenhouses, about 6 acres; and the Women's building, which was located at the north end of the lagoon and directly at the entrance to the Midway Plaisance, a strip of land 600 ft. wide and seven-eighths of a mile long, containing 80 acres, and connecting Jackson Park with Washington Park on the west. On each side of the central

walk which ran through the Midway were private concessions and exhibits, many of them made by foreign governments, to which admission fees were charged, and which, though having no connection with the Fair, formed one of its greatest attractions. Near the west approach stood the great Ferris wheel, 250 ft. in diameter and towering 270 ft. above the earth. The Ferris wheel cost \$400,000, contained 1,700 tons of steel, and the axle upon which it turned weighed 70 tons. Its erection began the latter part of February, 1893, and it was formally opened for the use of the public the 21st of the following June. Thousands of people made the circuit in the spacious cars hung upon its periphery, 36 in number, and seating 40 people comfortably.

The Buildings.—The main buildings of the Fair covered a ground area of over 123 acres; state, foreign, and other buildings, upward of 200 in number, about 67 acres, making a grand total area of about 190 acres. In November, 1890, Mr. D. H. Burnham of Chicago was appointed chief of construction, by the committee on grounds and buildings, and at his suggestion the architects of the main buildings were chosen by direct appointment, three being selected from New York city, one from Boston, one from Kansas City, and five from Chicago, making a board of ten, which met in consultation at Chicago, in January, 1891. An exception was made in the case of the Woman's building, the architect of which, Miss Sophia G. Hayden, was chosen in a competition restricted to women. The names of the various architects occur in the statistical table of the main Exhibition buildings given below. Ground was broken for the first building erected, that of Mines and Mining, on July 2, 1891. The materials used in the construction of the Exposition buildings were iron, wood, glass, and staff. All of the Exposition buildings and many of the state buildings were covered with the latter, of which 30,000 tons were used. Staff is a composition of plaster, cement, and hemp or similar fibre; it is fire-proof, water-proof, and lighter than wood, and can be molded into any desired shape for ornamentation. Its natural tint is a grayish white, but it will take any color. The painting of the buildings was accomplished at a great saving of time and expense by means of spraying machines run by electric motors. It could be truly said of the White City that the first sight of it never proved disappointing, its buildings being more imposing, and its vistas more beautiful, than any imagination had pictured them.

The Manufactures and Liberal Arts building was in the Corinthian style of architecture, and, in the point of being severely classical, excelled nearly all the other edifices. It was rectangular in form, 1,687 by 787 ft., with walls 66 ft. high. The interior was divided into a great central hall 380 by 1,280 ft., without a supporting pillar, surrounded by a nave 107 ft. wide, and outside of this a spacious colonnade. At the four corners of the building were pavilions 97 ft. in height, and at the centre of each

façade a pavilion 122 feet in height, with grand entrances designed in the manner of triumphal arches, the central archway being 40 ft. wide by 80 ft. high. The monotony of the façade with its long array of columns and arches was relieved by elaborate ornamentation, largely figures symbolic of the various arts and sciences. The building was covered by an arched roof of steel and glass, forty car loads of glass being used in its construction. Its height over the central hall was 237.6 ft., and it was supported by 22 steel trusses each weighing 300,000 pounds. There were 7,000,000 ft. of lumber in the floor, in laying which, 5 car loads of nails were used. Painting of the interior by means of spraying machines was begun Dec. 8, 1892, and completed in about six weeks, fifty tons of paint being used. The Manufactures and Liberal Arts building bore the distinction of being the largest building under roof in the world. It was three times larger than the Cathedral of St. Peter in Rome, and four times larger than the Colosseum, and could comfortably seat 300,000 people. In this building as yet unfinished, the dedicatory exercises of the Fair were held Oct. 21, 1892.

The Administration building, before the east front of which the opening exercises were held May 1, 1893, was considered the gem of the Exposition palaces. The general design was in the style of the French *renaissance*. The structure covered an area of 260 ft. square, and consisted of four pavilions 84 by 84 ft. and 65 ft. high, standing at the four angles of this square, leaving recessed spaces 82 ft. wide at the centre of each façade, within which were the grand entrances to the building, each 50 ft. wide and 50 ft. high, deeply recessed and covered by semi-circular arched vaults richly coffered. In the rear of these arches were the entrance doors, over which great screens of glass gave light to the central rotunda, which was surmounted by a dome 120 ft. in diameter and 220 ft. high. The exterior of the building was in three courses or stages. The first great stage was of the Doric order, 65 ft. high, surrounded by a lofty balustrade; and the three outer angles of each of the four pavilions were surmounted by groups of statuary, of heroic proportions, representing *Charity, Truth, Strength, Abundance, Tradition, Liberty, Joy, Diligence, Education, Unity, Patriotism, and Theology*. The second stage, of the same height as the first, was octagonal, consisting of an open colonnade 20 ft. in width, with columns 40 ft. high and 4 ft. in diameter, and of the Ionic order. The four façades were 84 ft. in length, and the four faces above the pavilions were surmounted by small domes. The eight angles of the octagon supported groups of statuary representing *Commerce, Industry, Justice, Religion, War, Peace, Science, and Art*. The third stage comprised the base of the dome, which was octagonal and 30 ft. high, above which the gilded dome itself rose in graceful lines, richly ornamented with molded ribs and sculptured panels. Electric lights studded these ribs, the base of the dome, and other parts of the building; and the illumination of this and other of the

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buildings was a special feature of the Fair, inaugurated on the evening of May 8, 1893.

The Convent of La Rabida was an exact reproduction of the convent in Spain, where Columbus found shelter in time of trouble for himself and his boy, and where it is said he developed his theory of an undiscovered continent in the West. Here were found some of the most valuable and interesting relics of the Exposition, including a battered wooden cross about 10 ft. high, said to have been erected by Columbus on his arrival in America; a little worm-eaten door taken from the convent; an anchor lost from the flag-ship *Santa Maria* at La Natividad; and one of the four cannon which were on the *Santa Maria*.

Statuary largely constructed of staff and mostly of colossal size, was freely used for adornment of the various buildings and the park, many of the single pieces and groups even surpassing European masterpieces in originality of conception, symmetry, and grace. The principal groups on the Administration building have been already mentioned. The McMonnies fountain standing at the head of the basin immediately in front of the Administration building may be singled out as perhaps the most perfect work of art among the groups and figures of sculpture which adorned the grounds. In this fountain the ship of state was idealized by a triumphal barge—in the prow, a winged figure of *Victory*; at the helm, hoary *Time*; amidships on a massive pedestal, *Columbia* enthroned. The barge was surrounded by 8 sea horses and their riders. Eight female rowers stood leaning upon the oars, 4 on each side, representing *Music, Architecture, Sculpture, Painting, Agriculture, Science, Industry, and Commerce*. The proportions of the work were on a grand scale, the smallest figure being 12 ft. in height. On either side of this fountain were smaller fountains illuminated by electricity. At the west end of the basin, with the Peristyle for a background and facing the Administration building, stood the colossal statue of *The Republic*, the work of Mr. D. C. French. This statue was a draped female figure 65 ft. in height, with arms upraised, holding in her right hand a globe on which rested an eagle with outstretched wings, and in her left grasping a pole surmounted by a liberty cap. The head was encircled by a crown, the jewels in which were electric lights. The figure strikingly resembled the statue of *Liberty* in New York harbor, and, notwithstanding its size, was symmetrical and in perfect harmony with the beautiful buildings which surrounded the grand basin.

The faithful camera has presented to future generations more comprehensively than could any word painting the architectural magnificence of the wonderful White City in the zenith of its glory, with its grand vistas, its beautiful interiors, its countless exhibits of the best handiwork of upward of 50 civilized nations of the world; and the same camera has been used to portray the desolation wrought by fire and the elements during the winter which followed the close of the Exposition, October 30, 1893. On January

8, 1894, fire destroyed the Casino, Peristyle, and Music Hall, and damaged the Manufactures building; and on July 5, 1894, the Terminal station, Administration building, Agricultural, Electricity, Mines and Mining, Machinery and Manufactures and Liberal Arts buildings were burned. What the elements left became man's prey. A writer visiting Jackson Park in April, 1895, says:

'A few workmen are listlessly engaged in completing the destruction. They call it restoration. The onlookers, who see them at work with sledges and cold chisels, call it chaos. The men work slowly and seem to produce no results. Twisted masses of iron are heaped where shining palaces once stood.

'The monastery of La Rabida has been spared for what, in the swift destruction of all things around it, may be regarded as a green old age. It stands silent and deserted on its lonely promontory, buffeted by the waves that sweep over the sea wall. It has made a brave stand against the snows and frosts of two winters. The tiles are crumbling from the roof, some of the windows are broken in, some of the doors are hanging outward, and the dead weeds stand tall and quaint in the quiet courtyard. But from the towers the iron crosses still point heavenward. Time has spared them and the statue of *The Republic* near by, no longer shining in a raiment of gold, but in a new and fairer garb of purest white. All the rest is ruin, brooding heavily on the place that used to intoxicate with its fanfares, its peals of bells, its pageants, its people.'

History.—By the summer of 1889, the much-discussed plan of holding a World's Fair in 1892 to commemorate the discovery of America by Columbus began to assume definite shape, and meetings of prominent citizens were held in New York, Chicago, and St. Louis on the call of the mayors of these cities to discuss plans and take steps to secure the site. A World's Fair bill was introduced in the U. S. senate December 19, 1889, by Senator Cullom of Illinois, which was referred to a committee which during the following January held a hearing on the subject of locating the site. Delegations appeared before the committee from various cities, that from St. Louis headed by Gov. Francis of Missouri, New York by Chauncey M. Depew, and Chicago by Mayor Cregier. A vote was taken in the house Feb. 24, 1890, Chicago securing the site on the eighth ballot, which stood 157 for Chicago, 107 for New York, 25 for St. Louis, and 18 for Washington, 154 being necessary for a choice. It soon became evident that preparations on the scale desired could not be completed so as to open the Fair in 1892; and on April 28, 1890, a bill fixing May 1, 1893, as the date of opening received the signature of the president, and became a law. May 26, 1890, on nominations made by the governors of the several states and territories, President Harrison appointed members of a national commission which held its first session at the Grand Pacific Hotel, Chicago, June 26 to July 3, elected Hon. Thomas W. Palmer of Michigan president, and before adjournment formally accepted Jackson Park

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and the Midway Plaisance, embracing 633 acres, as the site for the Exposition. The first meeting of the local board of directors of the World's Columbian Exposition was held at the Sherman House, Chicago, beginning April 12, 1890, and on the 30th, Lyman J. Gage was chosen its president. He was succeeded by William T. Barker April 14, 1891, who resigned the office on account of ill health August 18, 1892, and was succeeded by Mr. Harlow N. Higinbotham. Mr. Higinbotham also served during the Exposition as chairman of the council of administration, a body composed of 2 members of the board of directors of the Exposition, and 2 members of the World's Columbian commission, the latter provided for by act of congress April 25, 1890, and composed of the national commissioners appointed by the president. This council was organized for the purpose of concentrating the jurisdiction of both bodies in order to more effectually administer affairs. On September 19, 1890, Col. George R. Davis of Chicago was elected director-general of the World's Columbian Exposition, and in October of the same year D. H. Burnham of Chicago was appointed chief of construction. In October, 1892, the title of Director of Works was conferred on Mr. Burnham, with enlarged duties and powers added to those he already exercised.

On November 20, 1890, was organized the board of lady managers, of which Mrs. Potter Palmer of Chicago was unanimously elected president. December 24, 1890, President Harrison issued a proclamation declaring that the Exposition would open May 1, 1893, and in the name of the government and people of the United States inviting 'all nations of the earth to participate in the commemoration of an event that is pre-eminent in human history, and of lasting interest to mankind.' Although this invitation was formally accepted by many great nations, up to July, 1891, not an inch of space had been applied for by foreign exhibitors; and to correct the general feeling of apathy which prevailed abroad, the department of foreign affairs was organized, with Walker Fearn, who visited Europe in 1884 as commissioner of the New Orleans Exposition, as chief. A special commission was dispatched to Europe, which was accompanied on its return by authorized representatives from England, Germany, and Denmark, who came to look over the ground with reference to participation. Special commissioners were also sent to China, Japan, Austria, South Africa, and South America, and the result was the awakening of a world-wide interest; the work of the department thereafter being largely to satisfactorily provide space for which application was made by cable and letter. Up to the time of the opening of the Exposition nearly 10,000 communications in many languages were received by the department, and more than 25,000 were sent; these it is noteworthy to state were mostly written in English, which naturally was adopted as the official language of the Exposition. 52 foreign powers officially participated in the Exposition, while 14 others had exhibits in the several departments or on the

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Midway Plaisance. The total foreign appropriations aggregated \$7,000,000: and on the opening day 500 foreign commissioners were in attendance.

The ceremony of dedication of the buildings, fixed for October 12, 1892, was changed to October 21 following, by act of congress August 4, 1892, and, as already noted, the dedicatory exercises were held in the still unfinished Manufactures and Liberal Arts building. Vice-President Levi P. Morton representing President Harrison, and Henry Watterson of Kentucky delivering the dedicatory oration before an audience of over 100,000 people. August 5, 1892, congress by resolution extended an invitation to the king and queen of Spain and the descendants of Columbus to participate in the Exposition. In acceptance of this invitation the Duke of Veragua, a grandee of Spain and a descendant of Columbus, accompanied by the Duchess and suite, were present at the opening exercises May 1, 1893, on which occasion President Cleveland, at the conclusion of his opening address, at 12 08 P. M., touched the golden key which set in motion the machinery of the Exposition. In June the Infanta Eulalia, who represented the youthful Spanish ruler, also visited the Fair. Another distinguished arrival was that of the three Spanish caravels—reproductions of the vessels Columbus commanded—sent over by Spain and which reached Chicago July 7, 1893, followed 5 days later by the *Viking* ship sent over from Norway.

Attendance.—A feature of the Fair was special days marked by appropriate exercises and increased attendance. The total attendance passed the 200,000 mark on 'German day,' June 15, when the German-Americans celebrated in honor of Germany's part in the Exposition. July 4, 'United States day,' marked the largest attendance up to that time, being, paid admissions, 269,739 adults and 13,534 children, and 47,269 free admissions, a total of 330,542. Exercises appropriate to Independence day were held, including addresses by Vice-President Stevenson and Mayor Harrison of Chicago, and the unfurling of the Paul Jones flag. The largest attendance during the Fair was on 'Chicago day,' October 9, the figures being: Paid admissions, adults, 683,742; children, 33,139; free, 45,061, making a grand total of 761,942. The admission price to the Exposition grounds was 50 cents, and the only cut rates was for the week ending Saturday, October 21, during which time all children under 18 years were admitted at 10 cents. The result was that while the total attendance of children during the 178 days the Fair was open was 1,255,554, the attendance during the six days of this holiday week was 310,444 or about one quarter of the whole; and while the average of children to adults for the remaining 25 weeks of the Fair was only 5 per cent., the paid admissions on October 19 were, adults, 240,762, to children, 65,199 or 21 per cent. The total admissions by months were as follows:

COLUMBIAN EXPOSITION.

Fair open.		Paid.		Free.	Totals.
		Adults.	Children.		
May,	27 days	1,027,212	22,825	481,947	1,531,984
June,	30 "	2,541,958	133,155	902,721	3,577,834
July,	30 "	2,619,605	140,658	1,217,239	3,977,502
August,	31 "	3,328,522	186,971	1,172,215	4,687,708
September,	30 "	4,477,467	182,404	1,149,071	5,808,942
October,	30 "	6,228,510	587,925	1,128,995	7,945,430
Totals.....		20,223,274	1,253,938	6,052,188	27,529,400

International Congress.—A series of international congresses was arranged by the World's Congress Auxiliary, the accredited representative of the World's Columbian Exposition and the government of the United States, to be held during the Fair, beginning on the dates named below: Congress of Woman's Progress, May 15; Public Press, May 18; Medicine and Surgery, May 29; Temperance, June 5; Moral and Social Reform, June 12; Commerce and Finance, June 19; Music, July 3; Literature, July 10; Education, July 17; Art, Architecture, etc., July 31; Government, Law Reform, Political Science, etc., August 7; General Department, August 21; Labor, August 28; Religion, September 11; Sunday Rest, September 28; Public Health, October 13; Agriculture, October 16.

Financial.—The sources from which funds were derived to carry on building, grading, and general preparation for the Fair were, first: A fund of over \$10,000,000 in stock, raised by private subscription, divided among about 30,000 persons. Second, \$5,000,000 secured by bonds issued by the city of Chicago under an act of the legislature August 5, 1890. Third, \$5,000,000 secured by the sale of \$2,500,000 in souvenir silver half-dollars, a gift from congress. Up to April 1, 1893, \$16,708,826.48, a sum equal to twice the cost of the Paris Exposition, had been expended, and of this \$14,411,506.74 had gone into buildings, grading, etc. Appropriations from the various states for their buildings and exhibits, amounted to something over \$6,000,000. The balance sheet of the Fair on October 31, 1893, as published by Auditor Wm. K. Ackerman, showed receipts and expenditures as follows:

Gate receipts.....	\$10,626,330.76
Concession receipts.....	3,699,581.43
Miscellaneous receipts.....	686,070.49
Interest.....	86,981.82
Souvenir coins and premium on same.....	2,448,032.28
Capital stock.....	5,604,171.97
City of Chicago.....	5,000,000.00
Total.....	\$28,151,168.75
Construction expenditures.....	\$18,322,622.56
General and operative expenses.....	7,127,240.32
Preliminary organization.....	90,674.97
Net assets.....	2,610,630.90
Total.....	\$28,151,168.75

The average receipts per day exclusive of Sundays were \$89,501.53, and the average expenses exclusive of Sundays were \$22,405.30 daily. Up to the first of April, 1895, there had been paid back to the stockholders about 12½ per cent.

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of their investment; and from a business point of view as compared with all previous World's Fairs, the Columbian Exposition will ever be regarded as a marvellous success. From an educative point of view, socially, artistically, and as spreading abroad a better knowledge of American conditions and possibilities, its advantages have been inestimable.

The statistics of the principal buildings are given below:

Administration building, area, 1.6 acres; cost, \$450,000; style, French renaissance; architect, Richard M. Hunt, New York.

Agricultural and annex buildings, area, 13 acres; cost, \$618,000; style, classic renaissance; architects, McKim, Meade & White, New York.

Electricity building, area, 5.5 acres; cost, \$401,000; style, Corinthian; architects, Van Brunt & Howe, Kansas City.

Fine Arts building (two annexes), area, 4.8 acres; cost, \$670,000; style, Grecian-Ionic; architect, Charles B. Atwood, Chicago, Ill.

Fisheries building (two annexes), area, 1.12 acres; cost, \$224,000; style, Spanish-Romanesque; architect, Henry Ives Cobb, Chicago, Ill.

Government building, area, 3.3 acres; cost, \$400,000; style, classic; architects, Windrim & Edbrooke.

Horticultural building, area, about 6 acres; cost, \$300,000; style, Venetian renaissance; architect, W. L. B. Jenney, Chicago, Ill.

Machinery Hall and annex building, area, about 18 acres; cost, \$1,200,000; style, renaissance of Seville; architects, Peabody & Stearns, Boston, Mass.

Manufactures and Liberal Arts building, area, 30.5 acres; cost, \$1,500,000; style, Corinthian; architect, Geo. B. Post, New York.

Mines and Mining building, area, 5.5 acres; cost, \$265,000; style, Italian renaissance; architect, S. S. Beman, Chicago, Ill.

Transportation and annex buildings, area, 14½ acres; cost, \$370,000; style, approaching Romanesque; architects, Adler & Sullivan, Chicago, Ill.

Women's building, area, 1.8 acres; cost, \$138,000; style, Italian renaissance; architect, Miss Sophia B. Hayden, Boston, Mass.

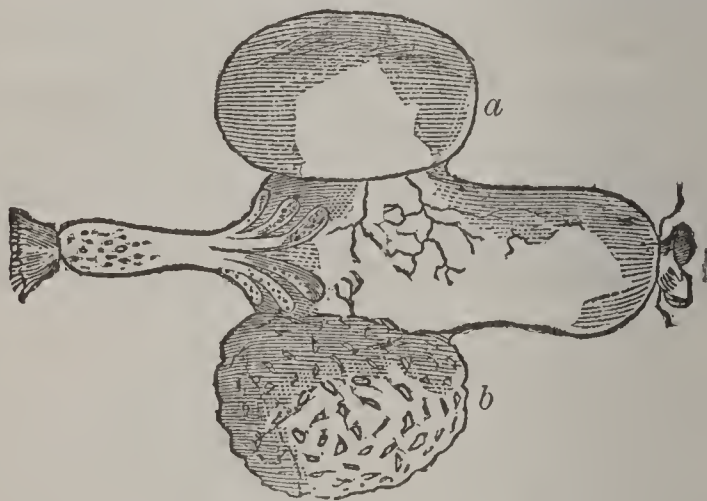
Forestry building, area, 2.5 acres; cost, \$100,000; style, rustic; architect, Charles B. Atwood.

Music Hall, Casino and Peristyle buildings, area, 0.14 acre; cost, \$210,000; architect, Charles B. Atwood.

Live-stock Pavilion building (and sheds), area, 43.5; cost, 335,000; style, Doric; architects, Holabird & Roche, Chicago, Ill.

COLUMBIDÆ.

COLUMBIDÆ, *kol-ŭm'bi-dē*: family of birds, often comprehended under the general English names *dove* and *pigeon*, and forming the genus *Columba* [Lat. pigeon] of Linnæus. They are generally ranked among gallinaceous birds, but have points of resemblance to the order *Insectores*, and have by some naturalists been constituted into a distinct order, intermediate between these. They agree with the true gallinaceous birds in the character of their bill, and in the soft naked tumid membrane at the base of it, in which the nostrils are pierced; also in their *rasorial* (scraping) habits and blunt claws; but they differ very widely from them in their great powers of flight, which are not surpassed in any other family of birds; in having the hind-toe on the same level with the other toes; in having no connecting membrane at the base of the toes; in being not polygamous but pairing, and in the male taking part with the female in the care of the young; in their having generally only two young ones at a time, but breeding often in a year; in their double crop, an expansion of the gullet on both sides, in which they differ from all other birds; and in the secretion, at breeding time, of a milky fluid by the crop of both parents, as in the parrots, with which the food is saturated in order to fit it for the young, which, unlike those of the true gallinaceous birds, are at first very helpless. The figure represents the gullet and double crop of



Gullet and double crop of a pigeon.

a pigeon—one side, *a*, exhibiting the usual appearance of the crop; and the other, *b*, showing its appearance at breeding-time when the glands are developed which secrete the milky fluid. The number of species of *C.* is very great, with so much resemblance that scientific classification has been found very difficult. They are found in all warm and temperate climates, but comparatively few are European. The Indian archipelago particularly abounds in them. Many of the tropical species have a brilliancy of colors scarcely excelled in the humming-birds or sun-birds. The chaste beauty of the plumage is always pleasing, even when brilliancy is wanting. The voice is very similar in all the species, the *cooing* of some, however, being harsh, that of others soft and pleasant. Some species are migra-

COLUMBINE—COLUMBUS.

tory, some congregate in prodigious flocks. See BRONZE-WING: CARRIER PIGEON: DOVE: FRUIT PIGEON: GOURA: GROUND-DOVE: PARTRIDGE PIGEON: PASSENGER PIGEON: PIGEON: TURTLE-DOVE: VINAGO.

COLUMBINE, a. *kōl'ūm-bīn* [L. *columba*, a dove]: pertaining to a pigeon or dove; dove color: N. the heroine in a pantomime, mistress of harlequin. COL'UMBAR'Y, n. -bēr'ī, a pigeon-house.

COLUMBINE, n. *kōl'ūm-bīn* [OF. *colombin*, dove-like—

from L. *columbīnus*, dove-like—from *columba*, a dove: may be only *column*, and *bine*—from AS. *bindan*; Icel. *binda*, to bind, as in woodbine], (*Aquilegia*): genus of plants of the nat. ord. *Ranunculaceæ*, having five colored sepals, which soon fall off, and five petals each terminating below in a horn-shaped spur or nectary. They are natives of the temperate and colder regions of the n. hemisphere. One, the Common C. (*A. vulgaris*), is found in woods and has long been a familiar inmate of flower-gardens. It is a perennial, generally three or four ft. high, with flowers, usually purple, of curious structure and considerable beauty. C. was formerly much esteemed for medicinal virtues which are now seldom heard of.—



Common Columbine
(*A. vulgaris*).

Some other species are very ornamental.

COLUMBO (root): see CALUMBA.

COLUMBRETES, *kō-lōm-brā'tēs*, or COLOMBRETES, *kō-lōm'brā-tēs*: group of small Spanish islands in the Mediterranean, 29 m. s.e. of Cape Oropesa, about lat. 39° 50' n., long. 0° 45' e. They were formerly a resort of pirates and privateers, but are now a military station. They are of volcanic origin, rise from the sea in rugged and broken masses, and are surrounded and separated from each other by deep water. The largest island, Santa Maria de C., has a good harbor, a hill called Monte Colibre, and many dwarf olives and other small trees; it yields crops of rye, maize, etc., but is infested with snakes.

COLUMBUS, *kō-lūm'būs*: city, cap. of Muscogee co., Ga., on the left bank of the Chattahoochee river, 300 m. n. of its mouth in Appalachicola Bay; 292 m. w. of Savannah, 95 m. s.s.w. of Atlanta, 84 m. w.s.w. of Macon. The Muscogee railroad leads e., the Girard railroad s.w. by a bridge connecting with Girard, Ala., directly opposite, and a branch railroad n. to La Grange, the main line running from Mobile to Richmond. C. was laid out 1828, on the

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site of a council town of the Cowetas, a Creek tribe. Within four m. above the city, the river descends 111 ft.; a dam 500 ft. long affords abundant water power to a number of cotton-factories, saw-mills, planing-mills, flouring-mills, and machine-shops. C. is handsomely built, with wide streets and attractive suburbs: it has four banks, four newspapers, a good school system, and eight or ten churches. The Chattahoochee is navigable throughout the year for vessels of light draught, and from Nov. to June, inclusive, steamboats carry cotton on it. C. is also a centre for other products, being surrounded by a rich agricultural region. Pop. (1870) 7,401; (1880) 10,123, over 40 per cent. of whom were colored; (1890) 17,303; (1900) 17,614.

COLUMBUS: capital of Bartholomew co., Ind., on the East Fork of White river, 41 m. s. by e. of Indianapolis by the Jeffersonville Madison and Indianapolis railroad, and about as far n.w. of Madison. A branch railroad connects it with Shelbyville and Cambridge, n.e. It has a bank, two newspapers, and several churches. Pop. (1870) 3,359; (1880) 4,813; (1890) 6,719; (1900) 8,130.

COLUMBUS, *ko-lŭm'bŭs*: city, cap. of Ohio and of Franklin co. It is built on a rich alluvial plain near the centre of the state, on the Scioto river, 110 m. n.e. of Cincinnati; lat. $39^{\circ} 57'$ n. long. $83^{\circ} 3'$ w. It was laid out 1812, the site being selected by commissioners appointed by the legislature 1810. Lots were sold 1812, June 18, and a bridge and saw-mill erected the next year. The *Western Intelligencer* was brought from Worthington, 1814; its title was changed, 1825, to the *Ohio State Journal*. The state officers removed from Chillicothe 1816, and the legislature met, Dec., in a state-house costing \$83,000. About this time the Franklin bank was incorporated. Pres. Monroe passed through 1817. The Ohio canal was opened 1825. C. grew apace, was laid out in regular squares with broad streets, and incorporated as a city 1834. The *Ohio Statesman*, founded 1837, was the only paper from that time till 1853; S. S. Cox was long one of its editors. The Columbus and Xenia railroad opened travel to Cincinnati 1850. The Cleveland Columbus and Cincinnati railroad was finished 1851, the Central railroad to Zanesville 1852, and the Columbus Piqua and Indiana 1853. There is now abundant railway communication in every direction, with a large union depot. The area of the city, which had been confined to 1,100 acres, was enlarged, 1863, to 2,700, and by further annexation, 1871, to 6,752, or nearly 11 sq. m. High street, the chief business thoroughfare, is 100 ft. wide. Broad street, the finest avenue for residences, is 120 ft. wide and has four rows of shade-trees. At the intersection of these, in Capitol square, occupying ten acres, stands the state-house, built of gray limestone in the Doric style, and covering two acres. It was 15 years in process of erection by convict labor, at a cost of \$1,441,675, and was opened 1856, Jan. 1. It contains 53 rooms, and is surrounded by large colonnades and terraces, with four porticoes, whose columns are 36 ft. high. The height of the building is 61 ft., of the

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cupola 158 ft., of the dome 120 ft. The rotunda is a mosaic of 4,957 pieces of marble from Vt. and Portugal; it contains Powell's painting of Perry's victory on Lake Erie, and other pictures and statues. The govt. building, for post-office, U. S. courts, etc., stands opposite the state-house, and cost \$500,000; the pension office is one of the largest in the country. The city hall is a fine stone edifice. The U. S. barracks were built 1864 for an arsenal at a cost of about \$400,000, and turned 1875, Nov., into a station for receiving and organizing recruits. The state insane asylum, on a rising ground 3 m. w., was built of cut stone and brick at a cost of \$2,000,000, will accommodate 1,300 patients, and has a farm of 300 acres. The idiot asylum has about 1,000 inmates and 50 instructors. The blind asylum cost \$600,000, can house 1,000 persons, employs 70, and educates 300 pupils, at an annual expense of \$50,000. The deaf and dumb asylum cost \$800,000, and spends \$80,000 yearly on about 500 pupils. The Ohio penitentiary, built 1833-35 by convict labor, at a cost of \$800,000, holds 2,000 prisoners, and is considered a model institution; its annual expenses are \$250,000. The Ohio State Univ., founded by act of congress, 1862, with a grant of 630,000 acres, has its buildings within the city limits, 3 m. n. of the state-house, with 40 acres of campus and 325 for farm uses; its property is now valued at \$1,565,000; it has about 75 instructors and 800 pupils of both sexes. The Starling Medical College was founded with \$35,000 by Lyne Starling, who died 1848. The Art Gallery, formed 1879, has instructed more than 1,600 pupils, and now has about 200. Capital Univ., organized 1856, is a Lutheran institution. There are several Rom. Cath. schools. The public schools have 34 buildings, accommodating 16,000 children. Among the finest of the church edifices are St. Joseph's Cathedral (Rom. Cath.) and Trinity (Episc.), both Gothic. There are two parks in the city, and one outside. C. claims to be the richest city of its size in the United States. Its real estate was valued 1890 at \$66,824,000. In 1886, its total investments amounted to \$190,000,000, of which \$35,000,000 were invested in railroads, \$20,000,000 in the coal business, as much in iron, \$18,000,000 in incorporated manufacturing companies, and \$8,000,000 in individual manufacturing. The business of 1887 equalled nearly \$60,000,000. Of this the leading interests were coal, iron, and buggies. Over 10,000 men are employed in mining, selling, and shipping coal, which now furnishes the chief industry of Ohio. More than 2,000,000 tons of coal were used in C. 1887, and 22 firms were occupied in supplying it. 67 firms deal in iron from the Hocking valley, of which some 200,000 tons are produced yearly, consuming about 400,000 tons of ore, 600,000 of coal, and 400,000 of limestone. The iron trade in 1887 reached nearly \$4,000,000; it is claimed that iron can be produced more cheaply here than elsewhere. 1,500 men are occupied in handling over 80,000,000 ft. of lumber annually: of this more than 3,000,000 ft. are used for buggies, of which there are 18 manufacturers, employing about 2,500 men and 300 women; they use yearly also 3,000 tons

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of iron, near 4,000,000 ft. of leather (or 7,000 hides), about 75,000 yds. of cloth, and 21,000 yds. of Brussels carpet. Over 20,000 carriages were sold 1887 for \$3,000,000; capital invested \$2,500,000. In 1900 C. had 35 iron foundries and machine-shops, including rollingmills, manufactories of steel rails, and malleable and galvanized iron. There were 914 manufactories of all kinds with \$25,392,136 capital. The board of trade has 1,500 members: its efforts, with the recent introduction of natural gas, have greatly diminished the nuisance of smoke from soft coal. The city has good police and fire depts., good sewerage, a water-supply from springs by a Holly engine, and a street-car system. There were (1902) 6 incorporated banks with an aggregate capital of \$2,300,000, 7 private banks with capital not reported and 2 savings associations with a capital of \$100,000; 5 daily papers, and numerous weeklies and monthlies. The state library contains about 50,000 volumes. There are 79 churches: Meth. Episc. 16, Rom. Cath. 12, Lutheran 6, Congl. 9, Presb. 8, Bapt. 9, Prot. Episc. 5, Disciples 3, besides Friends (orthodox), Evangel. Assoc., Jewish, Ind. Prot. (German), German Evangel. Prot., African Meth. Episc., Seventh Day Advent., Unit. Presb., and Universalist. Pop. (1815) 700; (1820) 1,450; (1830) 2,437; (1840) 6,048; (1850) 17,882; (1860) 18,554; (1870) 31,274; (1880) 51,647; (1887) 74,215; (1900) 125,560.

COLUMBUS, *ko-lŭm'bŭs*, BARTOLOMMEO: abt. 1432-1514; b. Genoa; elder brother of Christopher. He was making charts at Lisbon 1470, and is supposed to have sailed to the Cape of Good Hope with Diaz. Sent to England by his brother, he gave Henry VII. a map of the world, but appears to have secured no help. Before his return Christopher had discovered America and set out on his second voyage: C. was honorably received at the Spanish court, and sent with three ships to Hispaniola, where his brother made him *adelantado* of the Indies. In this position he was confirmed, after sharing the discoverer's imprisonment, and made lord of Mona Island, near Santo Domingo, with 200 Indians as a body-guard. He acted well in his office, but was allowed little real power. He founded the town of Santo Domingo, 1496, and died there.

COLUMBUS, *ko-lum'bus*, CHRISTOPHER (Latinized form of Italian *Colombo*, and Spanish *Colon*): great navigator who added a new hemisphere to our globe: 1436 (or 46)-1506, May 20; b. probably at or near Genoa. Though virtually the greatest man of his era, there is little definite information about his family and his early life. It appears, however, that he was son of a wool-comber; that he attended for some little time the then great school of learning in Pavia, where he showed a taste for astronomy and cosmography; and that he early went to sea, and made several voyages in the Mediterranean. Settling in Lisbon 1470, he there married the daughter of an Italian named Palestrello, who had distinguished himself as a navigator in the Portu-

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guese service, and with her obtained some valuable charts, journals, and memoranda. Lisbon, at this time, was the headquarters of all that was speculative and adventurous in geographical discovery; and here, while constructing maps and charts for the livelihood of his family, C. appears to have first imbibed that idea of land to the westward, which he was destined, after long disheartening years, to establish as fact—the land, indeed, not being, as he had supposed it, a prolongation of the eastern shores of Asia, but a new western continent. With the view, apparently, of better qualifying himself for his great enterprise, C. made several voyages to the Azores, the Canaries, and the coast of Guinea—then the limit of European navigation in this direction. Not until about 1482 or 3, did C. find opportunity to lay his scheme before John II. of Portugal. This monarch referred it to a junto of nautical and scientific men, who decided against it. The king, however, meanly taking advantage of a detailed plan obtained from C. under false pretenses, secretly sent out a vessel to examine the route. Too timid to venture far from the beaten-track, the pilots soon returned to Lisbon, to throw ridicule on the project. Disgusted with the duplicity of his sovereign, C. secretly left Lisbon in 1484, taking with him his little motherless boy Diego. He found his way to Genoa, where the republic, before whom he unfolded his scheme, treated it as the silly product of a visionary brain; and it is said that he met like treatment from the Venetians; but it appears doubtful whether he at this time communicated with them. Disappointed, but not despairing, for C. was buoyed up with the belief that Heaven had commissioned him to plant the banner of the cross upon those shores which as yet appeared to exist but in his own imagination, C. turned his steps toward Spain. Weary and hungry, he stopped one day at the gate of the Franciscan convent La Rabida, in Andalusia, to beg some bread and water for his child. This day was the turning-point in his career. The superior of the convent, Juan Perez de Marchena, passing at the moment, entered into conversation with the traveller, and was so struck with the grandeur of his views, that he used all his influence to procure him the favorable consideration of the king and queen. It was not, however, until seven more years of disappointments had passed over—during which C. had applied to other courts, and without avail—that he found himself in command of three small vessels, only one of which was decked, with 120 men, ready to start on his adventurous enterprise. C. claimed, as reward, to be nominated high-admiral, and gov. gen. and viceroy over all the lands he discovered, with a tenth of the produce of the countries. C. set sail from the bar of Saltes, near Palos, 1492, Aug. 3. Delaying a month at the Canaries to refit, he started thence, Sep. 6, over unknown seas. His crew soon began to interpose their timid fears, and when these were unavailing, to express their open disaffection; but equally disregarding of both, C. bore steadily westward; himself, however, not without misgiving as to what the variation in the needle (not before discovered)

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portended. On Oct. 12 his perseverance was rewarded with the sight of land, which proved to be one of the Bahama Islands. Here he solemnly planted the cross, giving the island the name of San Salvador. After discovering several other of the West India Islands, including Cuba and Hayti, or San Domingo, at the latter of which, called by him Hispaniola, he settled a small colony, C. set sail again for Spain, where he arrived 1493, Mar. 15, and was received with every demonstration of joy and admiration, as well by the people as the court. In Sep. he set sail from Cadiz on a second expedition, with 17 ships and 1,500 men. In this voyage, he discovered the Caribbee Islands, Jamaica, etc.; but calamities at home forced him to return in 1496. Having cleared himself with his sovereigns, he, 1498, set out on a third expedition. This time, steering more to the southward, he discovered Trinidad, and the mouths of the Orinoco, and landed at Paria, on the coast of S. America. After these discoveries, C. steered for Hispaniola, where he found everything in disorder. The king's ear had been again abused; an officer named Bovadilla had been appointed to supersede C. as gov., and by this person C. was sent home in chains. This unworthy treatment excited the indignation of the Spanish people to such a degree, that Ferdinand was fain to disavow all knowledge of the disgraceful affair. But all C.'s efforts to obtain redress from the king were fruitless. The spirit of adventure, however, which had borne him up amid so many disappointments, was not to be crushed by injustice. It still burned bright and strong as ever within the great old man, who, 1502, May 9, with four vessels and 150 men, set out once more to seek a passage uniting the Atlantic and Pacific oceans, which he imagined lay somewhere between Honduras and Paria. But the mutinous character of his crew forced him aside to seek for gold, and after many difficulties and disasters, and having added little of importance to his previous discoveries, he returned to Spain 1504, Nov. Isabella was dead; Ferdinand proved basely ungrateful; and so the noblest navigator the world has seen, was permitted to die in poverty at Valladolid. To make up somewhat for his injustice, Ferdinand gave C. a pompous funeral, and erected a magnificent monument to his memory. The body of C. was carried in 1536 to San Domingo, and deposited in a niche in the cathedral. In 1795, a Spanish admiral opened one of four niches, removed what he supposed were the remains of C., and took them to Havana, where they were placed in the cathedral. The Spanish govt. officially declared these remains to be those of C., and caused a grand monument to be erected over them. In 1887, July, a minute portion of the remains in Havana was taken to Genoa, and deposited in a tomb with ceremonial pomp in the navigator's native city. Some investigators have published a mass of evidence tending to show that, by mistake, another body than that of C. was removed, and that his remains still repose in San Domingo.

COLUMBUS—COLUMELLA.

COLUMBUS, FERNANDO: 1488, Aug. 15—1539; b. Spain; son of Christopher C. and Beatrix Henriques, of Cordova. At an early age he became a page to Queen Isabella; studied mathematics, navigation, and cosmography; accompanied his father on his fourth voyage, and his eldest brother, Diego C., to Hispaniola; then went with Charles V. to Italy and Germany, and after spending some time travelling in Asia and Africa became a priest. In the latter part of his life, he applied himself to study and literature, associated with the most learned men, collected a large and rich library which he bequeathed to the cathedral of Seville, and wrote *Historia del Almirante Don Cristóbal Colon* (Madrid, 1530).

COLUMBUS, or COLON, ko-lōn', Louis: grandson of the discoverer, and son of Diego C. (1472–1526) and of a niece of the Duke of Alva; 16th c. He abandoned his hereditary claim to be viceroy of the East Indies 1540, and was pensioned and made Duke of Veragua and Marquis of Jamaica.

COLUMELLA, n. kōl'ūm-ēl'lă [L. *columella*, a small column or pillar—from *columna*, a column]: in *bot.*, the central column or axis of the spore-cases (capsules) of mosses; the central axis which remains, formed of the placetas, when the carpels of some fruits have separated from each other and from them; in *zool.*, the central axis round which the whorls of many spiral univalves are wound; the central pillar found in the thecæ of many corals; in *anat.*, the central part of the cochlea of the ear.

COLUMELLA, kol-u-mel'la, LUCIUS JUNIUS MODERATUS: most learned of Roman writers on practical agriculture: earlier part of 1st c. after Christ; b. Cadiz, Spain. For some time, he resided in Syria, but lived chiefly at Rome, and died, probably at Tarentum. His great work, *De Re Rustica*, in 12 books—the 10th, On Gardening, is versified—is addressed to one Publius Silvinus, and treats of arable and pasture lands, culture of vines, olives, etc., care of domestic animals, etc., respective duties of masters and servants, etc. A supplementary treatise relates to trees. This ancient *Book of the Farm* is written in good Latin, and the information is copious, though not precise, and in some points of questionable accuracy. The best editions of C. are by Gesner (1735 and 73) and Schneider (1794–97.)

COLUMN.

COLUMN, n. *kōl'ūm* [L. *columna*, a round pillar: It. *colonna*: F. *colonne*]: a round pillar or shaft used to adorn or support a building; any body pressing downward perpendicularly on its base and of the same diameter as the base, as a column of water, air, or mercury; a body of troops drawn up in deep files; a succession of companies or parts of companies from front to rear, parallel to each other; a perpendicular division of the page of a book; a perpendicular line of figures; in *bot.*, the solid body formed by the union of the styles and filaments in some plants; the cylindrical body of a sea-anemone. **COLUMNAR**, a. *kō-lūm'-nēr*, formed in columns; having the form of columns; like a column. **COL'UMNED**, a. *-ūmd*, adorned or provided with columns. **COLUMN-LATHE**, a dentist's or watchmaker's lathe on a vertical extensible post to accommodate an operator in a sitting or standing posture. **COLUMN-ORDERS**, the Doric, Ionic, and Corinthian orders of architecture, so named from the important part filled in them by the different styles of columns. **COLUMN RULE**, the name given to pieces of brass of different thicknesses, made type-high, and used to separate columns of type. *Note*.—Strictly speaking, a *pillar* supports something, while a *column* is a monolith and stands alone, not affording support to a part of a structure, but this distinction is not observed.

COL'UMN, in Architecture: pillar or post, usually cylindrical in form, used for support of a roof, entablature, or other superstructure. As the earliest habitations in almost

all countries were formed of wood, it is unquestionable that the earliest columns consisted of the trunks of trees. It is said that even at the present day the Greek peasants of Asia Minor construct their wood-huts so as almost exactly to resemble the form and disposition of parts which are found

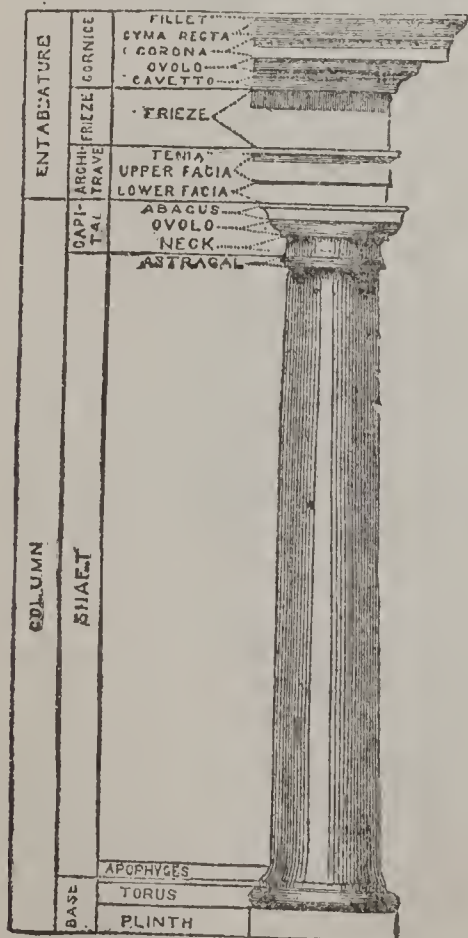


Fig. 1.—Column:
Tuscan, with details.



Fig. 2.

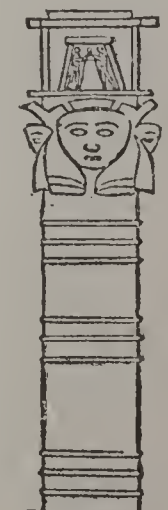


Fig. 3.

COLUMN.

in the great architectural monuments of classical antiquity. That the Greeks actually made use of wood in the earliest time, even for their monumental structures, is known on the testimony of Pausanias, who mentions a monument in the market-place at Elis which consisted of a roof supported by pillars of oak; and Pliny records that the temple of Juno at Metapontum was supported by pillars made of the stems of vines. From these facts, it is natural to conclude that the stone columns which came first into use would be imitations of the trunks of trees; and this we are in a condition also to prove historically, many of the largest stone columns in Egypt—where, from the scarcity of wood, they were earlier introduced than elsewhere—being manifest imitations of the trunk of the palm (figs. 2, and 3). In order to prevent them from being forced into the ground by the superincumbent weight these early wooden columns were placed upon one or more large flat stones, and on the top another stone was placed, to preserve them from the decay which the rain sinking into the wood would have occasioned. In these primitive arrangements, is plainly seen the germ of the three principal parts of the classical C.—the shaft, the base, and the capital. As the Doric style of architecture was the earliest of the classical



Fig. 4.



Fig. 5.



Fig. 6.

styles, the Doric is naturally the simplest and most severe of the classical columns. One of its most striking peculiarities is what at first sight seems to be the absence of the base (fig. 4). The true account of the matter, however, is, that all the columns in the same line of a Doric temple stand on one base, whereas, in the other orders, each C. has a separate base. But it is in the capitals in all the orders, Egyptian, Classical, and Gothic, that columns differ from each other most strikingly (see below). As classical architecture advanced, greater lightness and elegance were sought; and this, as regarded the C., was obtained

by increasing the height, and diminishing the proportional thickness of the shaft. In the Ionic and Corinthian orders (figs. 5 and 6), as compared with the Doric, this peculiarity is distinctly seen.

In almost all columns, the shaft tapers gradually from the bottom to the top, thus imitating the natural growth of a tree, and at the same time conforming to a mechanical rule for obtaining the greatest amount of strength in upright bodies. But in place of tapering regularly, the shaft was generally made with a slight swelling toward the middle, called the *entasis*, and had for the most part in all the classical orders striped incisions from top to bottom called flutes or channels, which were regularly worked, and varied in number from 20 to 32: see FLUTING. The relation which subsisted between the height of the C., and its diameter at top and bottom, and between these and the entablature, has been calculated with the greatest possible precision in all the principal classical examples, and will be found stated in all professional works on classical architecture. The shaft usually consisted of several cylindrical blocks accurately fitted to one another, while the capital was commonly hewn out of a single stone. The separate portions of the shaft were fixed together, not by mortar or cement, but by iron cramps, which were fitted into holes in the centre, and thus rendered invisible. Sometimes columns of immense size were hewn in the quarry of one piece of stone, and then rolled over the ground, and raised to their destined positions by various mechanical contrivances. Columns were often used in classical times as now in the interior of buildings to support the roof or galleries, as well as for decoration; and this custom seems to have prevailed in the halls of persons of great distinction even in Homeric times. In the ancient Basilica (q.v.) a line of columns separated the central space which was open to the sky from the aisles of the building, while they also supported the galleries above the aisles. These columns were the origin of the piers or pillars by which the nave is divided from the aisles in Christian churches. The same arrangement prevailed in the Roman atrium. When, in order to support the roof which covered the gallery or any other superstructure, a second row of columns was introduced, it was usually of the lighter styles, Ionic or Corinthian, the lower columns being commonly Doric. Single columns were erected for various purposes, as for mooring ships in harbors, or to commemorate persons of note, or national events. See PILLAR.

Capitals.—In classical architecture, it is by the capitals of pillars, more than by any other feature, that the different orders are distinguished, very much as the Gothic styles are marked by the form of the arch. Till the period of the renaissance, the head of a column, in English, was called chapter (chapter), its diminutive being chapitrell. The three capitals which are all that belong to pure Greek architecture are described in Thomson's well-known lines (*Liberty*), so concisely and accurately, that it is needless to dwell on them in prose:

'First unadorned,
And nobly plain, the manly Doric rose;
The Ionic then, with decent matron grace,
Her airy pillar heaved; luxuriant last,
The rich Corinthian spread her wanton wreath.'

To the three Greek orders, the Romans added two others: the Tuscan, a variation on the Doric, or rather a corruption of it; and the Composite, a combination of the Ionic and Corinthian, the proportions and general character of the Corinthian being retained, but the Ionic volutes being substituted for the Corinthian leafage. As the trunks of trees placed upright, so as to support the roof, unquestionably led to the introduction of the stone pillar, it may be that the capital was suggested by the boughs with which such trees might be supposed to be surmounted, or the garlands with which, on festive occasions, they were probably encircled and crowned. At first, when the power of working in stone was limited, imitation of foliage was scarcely attempted; but the original idea being adhered to, it came at last to be carried out with great success in the Ionic and Corinthian capitals of classical architecture, and in all of the more advanced of the Gothic styles.

The forms of Gothic capitals are exceedingly various. Beginning with the Romanic—often nothing more than a modification of the Doric, or a further debasement of the Tuscan, the sides being truncated or flattened, and some of the moldings omitted—they advance rapidly in adornment; and in the style called Early English, they already frequently consist of a mass of foliage, cut with great boldness and freedom, so that the stalks and more prominent of the leafage are entirely detached. It is remarkable that, in the decorated style, the capital lost much of the richness which it possessed in the earlier styles, often consisting only of plain moldings, with or without a ball-flower (q.v.), cut on the bell or bowl of the capital. Where foliation is introduced in this style, it is usually worked with greater freedom, and is free from the stiffness which characterizes earlier work. Animals, figures in armor, heads of bishops in mitres, and the like, are oftener found in the decorated style, though their introduction was not unknown at a much earlier period. In the perpendicular style, the capitals were stiffer in form, and generally less ornamented than in any of the others; though even here foliage is often introduced, as in the accompanying example from the cloisters of Christ Church, Oxford.

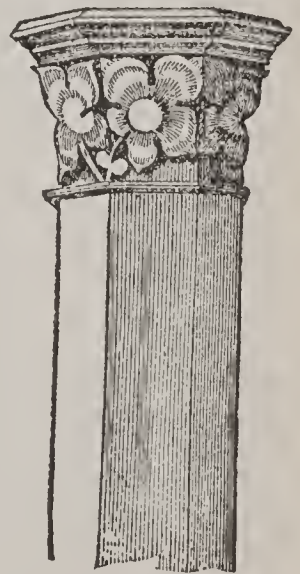


Fig 7.

The only invariable characteristics of capitals seem to be something like a molding at the upper part of the shaft, more or less complicated according to circumstances, and some sort of Abacus (q.v.) or flat portion on the top, on which the architrave rested in the classical orders. These characters belong even to the Egyptian capitals, which in

COLUMN—COMA.

many other respects resemble those of the other styles. The foliation of Egyptian capitals is generally taken from the vegetation peculiar to the banks of the Nile (fig. 2); but the capitals in this style, particularly in its later examples, were infinitely varied both in decoration and in form.

COLUMN, in Military Evolutions: mass of soldiers several ranks in depth, presenting a formation different from that which arises from spreading them out *in line*. There may be columns of brigades, of regiments, of battalions, or of companies; presenting a front of limited width, but a depth depending on the number of elements in the column. If a battalion consists of ten companies, then a 'battalion in C.' has all the companies posted one behind another. According to the density of the C., it is called *open* or *close*. In a battalion, when the distance between any one company and the one immediately before it is such as to admit of their wheeling into line, the formation is called *open C.*; when the distance between the front rank of one company and the rear rank of the one before it is only a few yards, it is *close C.*; when intermediate between these two, it is *half-distance C.* The relative advantages of C. and *line*, in drawing up troops for action, are among the questions closely studied by the commanders of armies; the French, as a general rule, have rather favored the formation in C.; the English, that in line. Sometimes the name C. is given to that which, in effect, is a small army.

COLURES, n. plu. *kō-lōrs'* [Gr. *kolouros*, dock-tailed—from *kolou'ein*, to cut; *oura*, the tail]: in *astron.*, the two circles which pass through the four cardinal points of the ecliptic—the equinoctial and solstitial points—and intersect at the poles: see **ARMILLARY SPHERE**, under **ARMILLA**.

COLU'TEÄ: see **SENNA**.

COLYMBIDÆ, *kōl'im'bī-dē*: family of web-footed birds, distinguished by short wings, legs placed so far back that the bird always assumes an erect position when standing, broad flat tarsi (*shanks*), and a compressed bill, pointed at the tip. They all are extremely aquatic in their habits, and possess great powers of diving as well as of swimming. Some of them have all the front toes perfectly webbed, as the loons or divers (*Colymbus*); others have the feet lobed, each toe with a separate membrane, as the grebes (*Podiceps*). These are the two principal genera. The guillemots (*Uria*) seem to connect this family with the *Alcæde*.

COLZA, n. *kōl'zǎ* [F. *colza*, wild cabbage—from Flem. *koolsaed*, cole seed or rape-seed (see **COLE**)]: a variety of cabbage or rape whose seeds yield an oil, called *colza-oil*. see **RAPE**.

COM-, *kōm-*: prefix, another form of **CON**, which see.

COMA, n. *kō'mǎ* [Gr. *komē*, a head of hair]: the stem of a plant terminating in a tuft or bush; the hairy appearance that surrounds a comet. **Co'MATE**, a *-māt*, hairy; of a bushy appearance.

COMA, n. *kō'mǎ* [Gr. *kōma*, a deer *sleep*]: lethargy; a

COMA—COMACCHIO.

dozing; a kind of stupor or insensible state, in certain diseases; intense propensity for continuous sleep. **COMATOSE**, a. *kōm'ă-tōs'*, also **COM'ATOUS**, a. *-tūs*, excessively drowsy; dozing without natural sleep; lethargic.—Coma differs from natural sleep in its characters, as well as in the circumstances under which it occurs. In C., the patient lies on his back, and is either simply insensible to external impressions, or has a confused and dull perception of them, with restlessness and low delirium (q.v.). The former kind of C. occurs in apoplexy and epilepsy, and in many other organic diseases of the brain and its membranes, of which, indeed, it may be said to be the natural termination. It is also seen in narcotic poisoning, and most characteristically in poisoning by opium (q.v.). In the most fatal forms, the breathing is very slow and noisy (snoring or stertorous), accompanied with puffing of the cheeks; the pulse is at first strong and regular, afterward feeble; there is often lividity; and the pupils are either contracted or excessively dilated, but in either case immovable, and totally insensible to light. In the second variety of C., there is perpetual restless delirium, without enough sensibility to lead to spontaneous and regular voluntary movements; the patient mutters slightly, and grasps feebly and without purpose at any object in his way; the pupils are usually contracted, and the tongue is apt to be dry and brown. This kind of C. is mainly seen in many fevers, and forms one of the modes of their fatal termination. The treatment of C. is that of the disease or accident leading to it. Where there is a reasonable chance of recovery, the patient must be roused to consciousness as much as possible, either by frequent movements or strong impressions on the skin, or by the use of galvanism, so as to maintain the respiration: see **OP'UM**. Blistering of the head sometimes has good effect.

COMA BERENICES, *kō'ma bĕr-e-nĭ'sēz* [Lat., Berenice's hair]: small and close cluster of stars near the equinoctial colure, s. of the tail of the Great Bear.

COMACCHIO, *kō-māk'kē-ō*: fortified town of central Italy, province of Ferrara, 3 m. from the Adriatic. The lagoon or marsh, in the midst of which it is situated, is about 140 m. in circumference, and is shut out from the Adriatic by a narrow belt of mud. Its position is very favorable for the manufacture of salt, of which 2,000,000 lbs. are said to be obtained annually. Pop. abt. 8,000.

C. is the seat of a curious industry—eel culture, the principal employment of its inhabitants. A series of canals have been constructed leading from the Adriatic to admit the fry of the eel, the mullet, the sole, and other fishes into the lagoon, where they are fattened, and speedily attain a marketable value. The fishery is carried on chiefly in the late autumn, when the waters of the lagoon are excited by storms. The fish, then seeking an outlet to the sea, find their way into certain labyrinths leading into reservoirs constructed at the termination of the canals, where they are caught in immense quantities. Religious ceremonies

COMANCHES—COMAYAGUA.

inaugurate the commencement of the season, and when any body of fishermen in one night capture 48,000 lbs. weight of fish, a feast of fish is held, and great rejoicings take place. The eel-harvest occupies 12 to 15 weeks; and some idea of its extent may be formed from the fact, that from 1798 to 1813 the annual 'take' averaged close upon 2,000,000 lbs. weight. From 1813 to '25, the average was about 1,612,600 lbs. per annum. An accident for some years greatly reduced these quantities, but the supply is again increasing, being upward of a million lbs. per annum. The fish are prepared for the market by partial cooking in a large kitchen built for the purpose, the eels of moderate size being roasted alive, in order to their better preservation. The larger fish are chopped into lengths, the heads and tails being sold for the benefit of the poor. Large quantities of the eels are also salted and dried. The workmen, who are lodged in barracks, and submit to a strict discipline, are allowed one and a half pounds of fish per diem. The money-value of these fisheries may be estimated from the fact, that 1 lb. weight of eel-fry will, in the course of three or four years, be worth to the cultivators of the lagoon a sum of over \$200.

COMANCHES, *ko-măn'chěz*: Indian tribe of the Shoshone family found in Texas, N. Mex., and Colo., and claiming to come from the west. They were called by themselves Naiini or live people, but by the Kansas Padoucas, a name adopted by the French, who visited them 1719 and '24. The name C. was given by the Spaniards, who reduced them to temporary quietness 1783, after long warfare. They are a wandering and warlike race, living in skin lodges, fighting on horseback, and fond of incursions upon the whites, whether Mexicans or Americans. Their warriors were estimated, 1780, at 5,000, and 1847, at 2,500 or less; their whole number was placed, 1822, at 9,000, higher by Catlin abt. 1838, and 1872, at abt. 4,000. Expelled from a reservation in Texas, they were constantly troublesome. Those of the Staked Plains refused to settle, and were punished by Col. McKenzie at McClellan's creek, 1872. Some who were more amenable were placed in the s.w. part of the Indian Territory, between the Kiowas and Apaches. They numbered (1899) 1,553.

COMART, n. *kō'márt* [Gael. *comhard*, a comparison]: in *Shakespeare*, a comparison; also said to signify, an article; an agreement or covenant; a joint bargain.

COMATE, or Co-MATE, n. *kō'māt* [*con*, and *mate*]: a companion.

COMATE, a.: see under COMA 1.

COMATULA, n. *kōm-ăt'û-lă* [dim. of *coma*, a bush of hair; *comātus*, hairy]: in *zool.*, an existing species of the Crinoids, stalked in its early condition and free afterward; the feather-star.

COMATULA: see CRINOIDEÆ.

COMAYAGUA, *kō-mî-ă'gwá*: dept. of Honduras in its s. central part; area, abt. 4,800 sq. m. It is mainly level,

COMAYAGUA—COMB.

fertile, and watered by the Humuya river. Coffee, cochineal, etc., are produced in the plains, and cedar, mahogany, and lignum-vitæ are abundant, but C. is known chiefly for its excellent cattle. It is rich in undeveloped mineral resources, ochre beds, marble, and mines of copper and silver. These are found in the mountains of San Juan or Guajiquero in the s. part, where the Lenca Indians raise grain, fruit, and mules. The chief towns are C., the capital, Las Piedras, Opoteca, Espino, Goascoran, San Antonio del Norte, and Caridad. Many ruins seem to indicate a large and active pop. in former ages. Pop. abt. 75,000.

COMAYAGUA, *kō-mī-á'gwá* (formerly VALLADOLID LA NUEVA): chief city of Honduras, Central America, 190 m. e. of Guatemala, in a fine but unhealthful valley, 1,800 ft. above the sea, on the right bank of the Humuya, which flows into the Pacific. The city was founded 1540, is the see of a bishop, has a cathedral, college, ecclesiastical seminary, several convents, and a rich hospital. Pop. 8,000: it was 18,000 previous to 1827, when the city was burned by the monarchical faction of Guatemala, and has never since wholly recovered.

COMB, n. *kōm* [Icel. *kambr*; Ger. *kamm*, a comb, a crest]: an instrument with teeth for arranging or cleansing the hair, also for preparing and cleaning wool or flax; the crest of a cock; the top or crest of a wave: V. to adjust, arrange, or clean with a comb. COMB'ING, imp. COMBED, pp. *kōmd*. COMB'ER, n. one who dresses wool: see CARD-ING-COMBER, among *seamen*, the crest of a wave, breaking with a white foam. COMB'LESS, a. wanting a comb or a crest. COMB-MAKER, n. one who makes combs. COMBINGS, n. plu. *kōm'ingz*, the dust from malted barley. COMB-SAW, the *stadde* or hand-saw of the comb-maker.

COMB, n. *kōm* [AS. *comb*; W. *cwm*, a hollow, a valley]: the collective mass of cells in which bees store their honey. COMB, or COMBE, *kōm*, also COOMB, n. *kōm* [W. *cwm*]: a hollow among hills, or an upland valley, generally narrow and without a stream of water. The word is allied to the Gr. *kymbos*, a cavity; *kymbe*, a vessel.

COMB, n. *kōm*, or COOMB, n. *kōm* [see COOMB]: an old Eng. corn-measure, containing four bushels.

COMB: instrument with teeth, for arranging the hair. Combs seem to have been used by the ancients rather for adjusting than for fastening the hair, the pin or bodkin (*acus*) having chiefly served the latter purpose. Both the Greek and the Roman combs were generally made of box-wood, obtained from the shores of the Euxine; but latterly, ivory combs came into general use among the Romans, as they had long before been among the Egyptians. The precious metals were also used for the purpose, as may be inferred from the golden combs ascribed to the goddesses; but this was probably rarer in ancient than in modern and mediæval times, as the C. was not anciently used as an ornamental fastening. Of the early use of gold combs by

COMB.

Englishwomen, there is a testimony in the well-known ballad of *Sir Patrick Spens*:

‘O lang, lang may their ladyes sit,
Wi’ their gowd kames in their hair.’

Fig. 1 represents an ancient Irish long rack C. in the museum of the Koyal Irish Acad. The sides are hog-backed, and between them are set the pectinated portions,



Fig. 1.

varying in breadth from half an inch to an inch and a quarter, according to the size of the bone out of which they were cut. The whole is fastened together with brass pins riveted. By this contrivance, any damaged portion could easily be replaced.

Fig. 2 is a specimen of a pocket fine-tooth C., from the

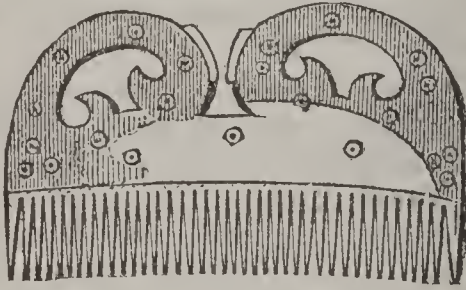


Fig. 2.

same collection; it is drawn two-thirds the size of the original.

Combs are of tortoise-shell, ivory, horn, wood, bone, metal, and india-rubber. The material is first made into plates of the size, shape, and thickness of the C., and then the teeth are cut. The old method of cutting the teeth is by the *stadda* or double saw, which has two blades of steel set parallel to each other, with a space between them equal to the thickness of the intended tooth. Combs with 50 or 60 teeth to the inch may be cut in this manner. The teeth are then thinned, smoothed, and finished by means of thin wedge shaped files. Instead of hand-saws, circular-saws of similar construction have been more recently used.

Many combs are now made by a method called ‘parting.

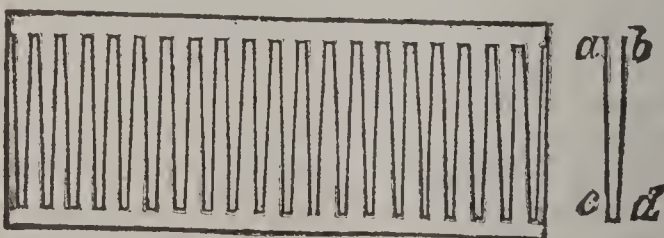


Fig. 3.

By the processes of cutting above described, the material corresponding to the spaces between the teeth is of course

COMBACONUM—COMBAT.

wasted; by the method of parting, this material is made available to form the teeth of a second comb. The plate of horn, tortoise-shell, etc., is cut through by means of a stamping-cutter, consisting of two thin chisels inclined to each other, as *ac* and *bd*, which represent their edges; between these, and connecting the ends *c*, *d*, is a small cross-chisel. When this compound cutter descends with sufficient force upon the plate, it cuts one of the teeth shown in the figure. By simple machinery, the table carrying the plate is made to advance a distance equal to the thickness of one tooth while the cutter is rising, and thus the successive cuts are made as represented. A slight pull is now sufficient to part the plate into two combs, the teeth of which only require filing and finishing.

India-rubber combs, now so extensively used, are manufactured by pressing the caoutchouc to the required form in molds, and 'vulcanizing' or combining it with sulphur afterward for requisite hardness.

COMBACONUM, *kõm-bâ-kõ'nũm*: city of s. India, in the Carnatic, 20 m. n.e. of Tanjore, 30 m. from the Bay of Bengal, lat. 10° 58' n., long. 79° 26' e. It was the capital of the Cholas, an ancient Hindu dynasty, and is esteemed a holy city. According to a native superstition, one of the tanks is filled every twelfth year from the Ganges by a subterranean channel 1,200 m. long; this water cleanses from sin, and thousands make annual pilgrimages to bathe in it. The town is built on a large scale, and has several pagodas and other notable buildings. The great gopura or gate-pyramid is over 100 ft. high, with twelve stories, the first of granite, the rest of stuccoed brick; it is covered throughout with figures of men and animals. C. has a long bazaar and a fair trade; weaving is a principal industry. Pop. (1891) 54,000.

COMBAT, n. *kũm'bât* [F. *combat*, a fight—from *combattre*, to fight—from L. *con*, together, and F. *battre*, to beat]: a fight; a contest by force; a battle, conflict, or strife: V. to fight; to struggle or contend with, for, or against; to act in opposition; to oppose or resist. COM'BATING, imp. COM'BATED, pp. COM'BATANT, n. *-tãnt*, any person who fights; a duellist; a controversialist. COM'BATIVE, a. *-tĩv*, disposed to fight or contend. COM'BATIVENESS, n. disposition or inclination to fight.—SYN. of 'combat, v.': to fight; contend; resist; contest; oppose;—of 'combat, n.': engagement; battle; action; conflict; contest; fight; encounter; strife; rencounter.

COMBAT, SINGLE: very ancient usage, evidenced by Goliath (1 Sam. 17), and by Ajax in the Iliad. The Norse practice of principals going alone to a small *holm* or island, to be free from disturbance while settling their quarrels by strength and skill, gave rise to the Saxon term *Holm-Gang*. In the days of chivalry the single combat received the strong support of law and custom, and was resorted to both in civil and in criminal cases. The accuser or plaintiff swore to the truth of his tale, the other gave him the lie, a gage of battle was thrown down and taken up, and they fought it

out under rules before an assembly, the supposition being that God would give victory to the right. The barbarous practice survives, without its excuse of superstition, in the modern duel. See DUEL: BATTEL, TRIAL BY.

COMBE, n. *kōm*: see under COMB 2.

COMBE, *kōm* or *kōm*, ANDREW, M.D.: 1797, Oct. 27—1847, Aug. 9; b. Edinburgh; bro. of George C. He studied medicine at Edinburgh and Paris, and in 1823 commenced to practice in his native city. In 1836, he received the appointment of physician in ordinary to the king of the Belgians, but his delicate health prevented him from retaining this office. Afterward, he became one of the physicians in ordinary to Queen Victoria in Scotland. His principal works are—*Observations on Mental Derangement* (1831); *The Principles of Physiology applied to the Preservation of Health*, etc. (1834; 15th ed. 1860); *The Physiology of Digestion considered with Relation to the Principles of Dietetics* (1836; 10th ed. 1860); and *The Management of Infancy, Physiological and Moral* (1840; 9th ed. 1860, revised by Sir James Clark; 10th ed. 1870). Mild, benevolent, and wise, Andrew C. won the esteem and admiration of all who had knowledge of him. His *Life and Correspondence*, published by George C., 1850, gives instructive record of his patient scientific combat with a serious pulmonary disease for nearly 30 years. His death was probably hastened by exposure to the poisonous air of an emigrant ship, in which he made a voyage to America; his experience led him to advocate, through the *Times*, a law regulating the sanitary arrangements in emigrant vessels. His letter on this subject appeared a month after his death, and was soon followed by a law to remedy the evil. C. also exerted himself successfully for the improvement of medical education. A list of his contributions to the *Phrenological Journal* and the *British and Foreign Medical Review* is appended to his *Life*. Dr. C.'s character is affectionately depicted by his friend Sir James Clark, in an introduction to the 9th ed. of *The Management of Infancy*.

COMBE, GEORGE: 1788, Oct. 21—1858, Aug. 14; b. Edinburgh: also educated there. Entering the legal profession, he became a writer to the *Signet*, 1812, and continued to practice till 1837, when he turned to scientific pursuits. As early as 1816, he made the acquaintance of Dr. Spurzheim, who visited Scotland. C.'s early aversion to Spurzheim's system gave way to a conviction that phrenology was based on fact. The result was his *Essays on Phrenology* (1819). Five years later, appeared his *System of Phrenology*, which reached a fifth ed. 1843, was reprinted in America, and translated into French and German. But his most important production is *The Constitution of Man considered in Relation to External Objects* (1828; 9th ed. 1860). This work endeavors to demonstrate, what it is strange should ever have been denied, the essential harmony of the nature of man with the surrounding world, and the necessity of studying the laws of nature, in order that we may realize the advantages of the external world, lessen our exposure to outward evils, and carry out successfully man's

COMBERMERE.

physical, moral, and social improvement. C.'s doctrines, which now seem almost common-place truths, were violently opposed, being considered by many as inimical to revealed religion. They may be said to have given to the English-speaking public the key-note of modern physico-social reforms. Nearly 100,000 copies of the work have been sold in Britain; numerous editions have been printed in America, and it has been translated into French, German, and Swedish. C. contributed largely to the *Phrenological Journal* (20 vols., 1824-47). He travelled in Germany and America, and published *Notes of his experiences*. Mr. C. married, 1833, Cecilia, daughter of the celebrated Mrs. Siddons. Besides the works mentioned, he wrote *Elements of Phrenology* (1824; 9th ed. 1862); *Lectures on Popular Education* (1833; 3d ed. 1848); *Moral Philosophy* (1840; 3d ed. 1846); *Life and Correspondence of Andrew Combe, M.D.* (1850); *Principles of Criminal Legislation and Prison Discipline* (1854); *Phrenology applied to Painting and Sculpture* (1855); and *The Currency Question considered in Relation to the Bank Restriction Act, 7 and 8 Vict. c. 32* (1855; 8th ed. 1858), etc. The latest of his works—on the importance of natural religion—is *The Relation between Science and Religion* (1857). C. was active and zealous, and lectured much on his favorite subjects, in Britain and America, and even in Germany. See the *Life* by C. Gibbon (1878); and C.'s views and articles on *Education*, collected by Jolly (1879).

COMBERMERE, *kūm'ber-mēr* or *kōm'bēr-mēr*, Viscount (STAPLETON STAPLETON-COTTON): British field-marshal: 1773-1865, Feb. 22; b. Llewenny Hall, Denbighshire; son of Sir Robert Salusbury Cotton, baronet, of Combermere Abbey, Cheshire. Educated at Westminster School, he entered the army 1790, Feb., and distinguished himself in India at the battle of Mallavelly and the siege of Seringapatam. In 1807—in which year he succeeded his father in the baronetcy—he proceeded, with the rank of maj.gen., to the Peninsula, in command of a brigade of cavalry; and in 1810 was appointed to the command of the whole allied cavalry under the Duke of Wellington. He was in the battles of Talavera, Fuentes de Onoro, Salamanca—where he was second in command, and was severely wounded—the Pyrenees, Orthes, and Toulouse. For his brilliant services in the Peninsular war, he repeatedly received the thanks of parliament, and 1814, May 17, was raised to the peerage as Baron C. Although not at Waterloo, he had the command of the cavalry of the army of occupation in France; and in 1817 was appointed gov. of Barbadoes, and commander of the forces in the W. Indies. In 1822, he became commander-in-chief in Ireland; and in 1825 was nominated commander of the forces in India. In that position, he captured the almost impregnable fortress of Bhurtpore; and, 1826, Dec. 2, was raised to the rank of viscount. In 1834, he was sworn a privy councillor; 1852 succeeded the Duke of Wellington as constable of the Tower and lord-lieut. of the Tower Hamlets; and 1855 was made a field marshal and G.C.B. He died at Clifton. See his *Life* (2 vols. 1866).

COMBIMATE—COMBUSTIBLE.

COMBIMATE, a. *kõm'bi-nāt* [see COMBINE]: in *OE.* betrothed; promised.

COMBINATION, OF WORKMEN: see TRADES UNION.

COMBINE, v. *kõm-bīn'* [F. *combiner*—from mid. L. *combīnārē*; to unite—from L. *con*, together; *bini*, two by two, double]: to unite or join together two or more things; to link closely together; to cause to unite or bring into union; to unite, agree, or coalesce; to league together. COMBĪNING, imp. COMBINED', pp. *-bīnd'*. COMBĪNER, n. one who. COMBĪNABLE, a. *-nā-bl*, that may or can be united. COMBĪNĀTION, n. *-bī-nā'shūn* [mid. L. *combīnātus*, joined together, united]: close union or connection; an intimate union of two or more persons or things to effect some purpose; a union of particulars. CHEMICAL COMBINATION, the tendency of certain substances to unite and form a new substance, possessing properties different from both, called a CHEMICAL COMPOUND: for laws of chemical combination, see ATOMIC THEORY. COMBINATIONS in mathematics: see PERMUTATIONS. COMBINATION-FUSE, a fuse combining the principles of time and percussion, so that if the time-fuse fail to explode the shell after the proper interval, the percussion device will produce this effect when the shell strikes. COMBINATIONS-LAWS, laws relating to the combinations of masters and workmen: see TRADES UNION. COMBINATION-PEDAL, a pedal acting upon the wind-supply instead of upon the draw-stops of an organ. COMBINATION-ROOM, a room in which the fellows of the different colleges in the Univ. of Cambridge meet after dinner for dessert and conversation. It corresponds to the common-room of Oxford and Dublin. COMBINATIONAL-TONE, a third tone produced when two musical notes are sounded together. It is also called the *grave harmonic* and the differential tone: see CHORD.—SYN. of 'combine': to connect; attach; unite; agree; coalesce; confederate;—of 'combination': association; partnership; alliance; cabal; conspiracy; plot; faction; union; confederacy; coalition.

COMBRETACEÆ, *kõm-brēt-ā'sē-ē*: natural order of exogenous plants, consisting of trees and shrubs, all natives of tropical countries. It contains about 200 known species, most of which are characterized by astringency.

COMBS, *kõmz* or *kõmz*, LESLIE: 1793, Nov. 28—1881, Aug. 21; b. Clark co., Ky.: soldier and politician. He was the youngest of 12 children of a revolutionary officer who early emigrated from Va. to Ky. In the winter of 1812–13 he alone carried dispatches to Gen. Harrison over 100 m. in the snow through a wilderness full of Indians. Made capt. 1813. Apr., he tried to carry news of succor to Harrison when besieged in Fort Meigs, but barely escaped capture in sight of the fort; in May he was wounded, taken prisoner, and forced to run the gauntlet. He afterward became an eminent lawyer, a whig politician and friend of Clay, state auditor, member of the legislature, and gen. of militia.

COMBUSTIBLE, a. *kõm-būs'tī-bl* [F. *combustible*—from L. *combustus*, wholly consumed—from *con*, together; *ustum*; Skr. *ush*, to burn]: that will take fire and burn; having the

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property of catching fire: N. a substance that will take fire and burn. COMBUS'TIBIL'ITY, n. -bîl'î-tî, the quality of taking fire and burning; capacity of being burnt. COMBUS-T'ION, n. -büst'yân, sometimes kôm-büst'shün [F.—L.]: a burning; the action of fire on bodies capable of being burnt; the chemical combination of two or more bodies producing heat, and sometimes both heat and light. SPONTANEOUS COMBUSTION, the tendency which many substances, or mixed substances, have of developing heat when undisturbed for a length of time, to such an extent as to develop combustion, and often explosions, without the application of fire.

COMBUS'TION: process of burning, which usually consists in the oxygen of the air uniting with the constituents of the combustible substance. Thus, the C. of coal is due to the oxygen of the air passing into a state of chemical union with the carbon and the hydrogen of the coal, forming carbonic acid (CO_2) and water-vapor (HO). Such chemical combinations are always accompanied by the production of more or less heat, as in the case of decaying wood and other vegetable matter; but it is only when the action is so rapid as to evolve intense heat accompanied by light, that the process is called burning or combustion. Though the gaseous oxygen has as much to do with the process as the more solid material, coal, wood, paper, or cloth, yet the latter alone is styled the *combustible* or *burning body*, while the oxygen is invariably named the *supporter* of combustion. A few substances burn at ordinary temperatures, such as phosphorus, which glows when exposed to the air; but the generality of substances, such as wood, coal, etc., require to be raised in temperature or to have fire set to them before they possess the power of combining with the oxygen of the air. The amount of heat given out by the various combustibles when burned, is capable of being measured, and is definite. The same weight of the same combustible invariably evolves the same amount of heat during its complete C.; but different combustible substances give off different amounts of heat. The mode in which the heat evolved may be measured, is either (1) To observe the quantity of ice which a given weight of the combustible will melt when burning; (2) To notice the weight of water which the combustible will convert into steam; or (3) To estimate the number of pounds of water which the burning body will raise from 32° to 212° F. The last plan is most easily managed and accurate, and serves as the index in the following table, which gives the number of pounds of water raised from 32° to 212° F. during the C. of one pound of each of the burning bodies:

Charcoal, pure.....	78	lbs. of water
“ from wood	75	“
Wood, dried.....	36	“
“ undried	27	“
Coal, bituminous	60	“
Turf and Peat.....	52 to 30	“
Alcohol.....	$67\frac{1}{2}$	“
Olive oil, wax, etc.....	90 to 95	“
Ether.....	80	“
Hydrogen.....	$236\frac{1}{2}$	“

The amount of heat evolved appears, however, to be proportional to the quantity of oxygen required to burn the various combustibles. Thus, when a similar volume of oxygen gas, or even ordinary air, is allowed to flow against the various combustible substances, the following results are obtained:

One lb. oxygen combining with	Raises from 32 to 212 degrees F.	
Hydrogen...	29½ lbs. of water.	
Charcoal.....	29	"
Ether	28	"
Alcohol.	28½	"

While the absolute amount of heat evolved during the C. of any burning body is the same, yet the sensible heat may vary according to the rapidity of the process. Thus, when phosphorus is exposed to the air at ordinary temperatures, it very slowly combines with oxygen, and gives out little heat at any one moment, but it is diffused over a great length of time; while if the phosphorus is set fire to in the air, it burns vividly, and gives out much heat and light for a short time; and still further, if the burning phosphorus be placed in pure oxygen, it enters into most vivid C., and evolves a most intense heat and brilliant light for a still shorter time. In the latter instances, the heat evolved at any one moment is greater, because more rapid, than that given off at the same time during the slower process of C.; but when allowed to proceed to a termination, there is as much heat produced during the whole time occupied in its development. The same remark applies to the coal placed in a furnace. So long as the supply door of the furnace is open, and there is little draft of air through the fuel, a moderate amount of heat is evolved, which may last several hours; but when the door is shut, and much air is drawn through the coal, the latter is more quickly burned, and more heat is evolved during a shorter period of time than before; but in the long run there is the same amount of heat evolved.

COME, *v. kŭm* [AS. *cuman*; Ger. *kommen*, to come: Dut. *komen*; Icel. *koma*, to come, to fall, to please]: to draw near to move towards; to arrive or reach; to happen or fall out; to advance and arrive at some state or condition; to sprout or spring as plants. COM'ING, *imp.*: N. act of sprouting arrival; approach: ADJ. future; expected. CAME, *pt. kām*, did come. COME, *pp.* COM'ER, *n.* one who. COME'LY, *a.*, which see. To COME ABOUT, to fall out; to happen; to change. To COME AND GO, to flicker; to change. To COME AT, to reach; to gain. To COME BY, to get; to acquire. To COME IN, to yield; to become the fashion; to obtain; to accrue, as from an estate or from trade. To COME NEAR, to approach. To COME OF, to proceed, as from ancestors, or as an effect from a cause. To COME OFF, to escape; to get free; to take place, as a race. To COME ON, to approach; to make progress. To COME OUT, to be made public; to be introduced into general society; to publish. To COME OVER, to run over, as a liquid; *familiarly*, to get the better of any one. To COME ROUND, to recover; to revive. To COME SHORT, to be insufficient. To COME TO ONE'S SELF, to recover, as

COMÉDIE FRANÇAISE—COMENIUS.

one's senses. To COME TO PASS, to happen. To COME UP TO, to amount to; to rise. To COME UPON, to invade; to attack. ALL COMERS, all persons indifferently. COMING-IN, in *OE.*, an income; a revenue; submission; beginning; introduction. COMING or COMING ON, in *OE.*, fond; forward.

COMÉDIE FRANÇAISE, *ko-mā-dē' frōng-sāz'*, or THÉÂTRE FRANÇAISE: theatrical association in Paris founded by Louis XIV., 1680. Three theatres were running that year, and he combined the two strongest companies under this title and created a monopoly for the new enterprise, to secure a greater perfection of comedy representation. A constitution was provided, and the members of the company were given partnership interests. While this was the formal foundation, it cannot be said to have been the origin of this great playhouse, for a company of comedians was in existence at the Théâtre du Marais during the reign of Henry IV.; a second company built the theatre of the Hôtel de Bourgogne, where Corneille appeared, and two others afterward established the theatres of the Petit Bourbon and the Palais Royal. The theatre of the Hôtel de Bourgogne is regarded as the actual progenitor of the C. F., and thus the year 1548 may be taken as the date of its origin. Louis granted the company a 'pension,' or subscription of 12,000 fr. per year, and this state aid has been continued, averaging in recent years 240,000 fr. per year. The partnership comprises 24 'sociétaires,' who share in the profits of the theatre, and are usually chosen from the 'pensionnaires' or actors playing by the year on fixed salaries. A 'sociétaire' is entitled to 24 shares worth 12,000 fr., and after 20 years' service draws a pension of 5,000 fr. per year. The total of the active personnel is 208 persons, who together receive 798,701 fr. in salary beside profits. The present director is Jules Claretie, who has a salary of 30,000 fr. and an expense credit of 6,000 fr. per year.

COMEDO, *kōm'e-do*, pl. COMEDONES, *kōm-e-dō'nēz* [L., a glutton]: a pimple, especially in acne on the face; arising from the retained secretion of the sebaceous glands.

COMEDY, n. *kōm'ē-dī* [F. *comédie*—from L. *comædiā*; Gr. *kōmoī'diā*, a village song—from Gr. *kōmos*, a merry-making, and *ōdē*, a poem]: a representation by actors in a theatre of the light and trivial every-day occurrences of life: see DRAMA. COMEDIAN, n. *-ē'dī-ăn*, an actor or player in comedy; a writer of comedy. COMEDIETTA, *kōm-ē'dī-ēt'tā* [It.]: a little comedy.

COMELY, a. *kūm'li* [AS. *cymlic*, comely; *cweman*, to please, to delight: Dut. *komelick*, fit, convenient: Gael. *cumadail*, shapely—from *cuma*, shape, form]: finely proportioned; handsome; graceful; suitable; fitting; decent—connected with COME, which see: AD. handsomely; gracefully. COMELINESS, n. fitness; suitability; beauty which excites respect.

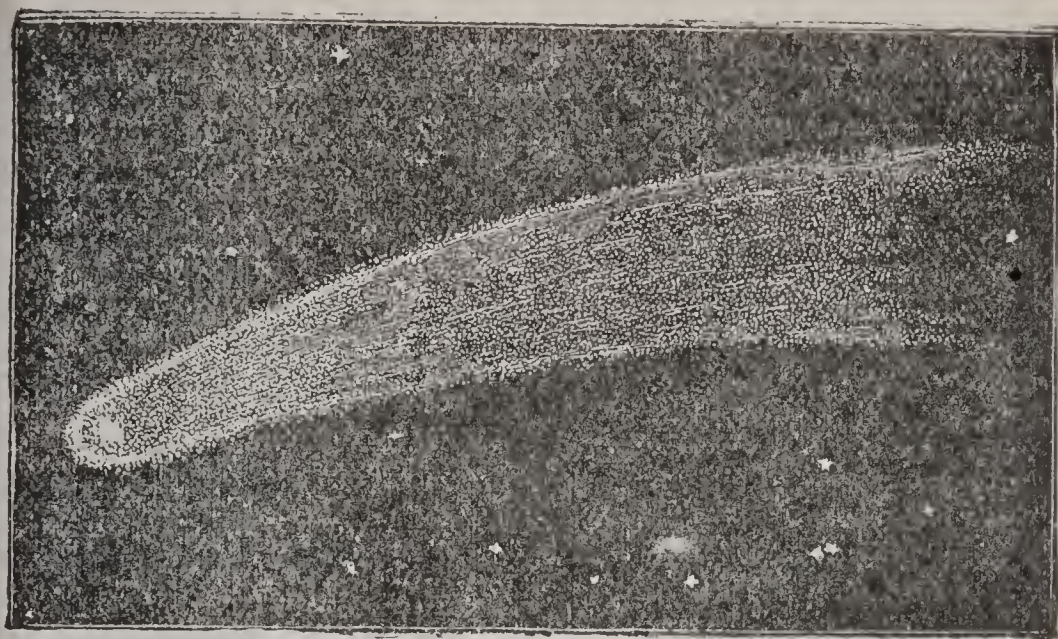
COMENIUS, *ko-mā'nē-ūs*, JOHN AMOS (properly KOMENSKY): educational reformer: 1592, Mar. 28—1671, Oct.

COMES—COMESTIBLE.

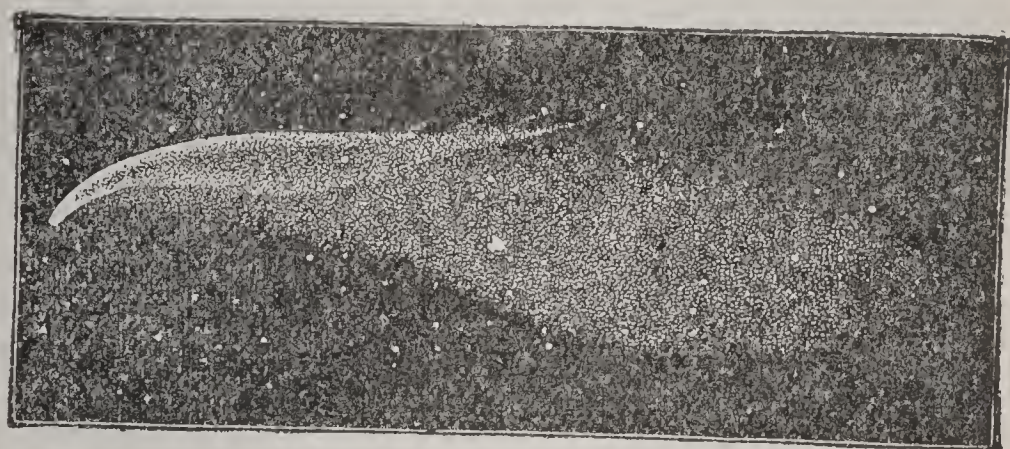
15; b., according to some, at Comna, near Brünn; according to others, at Niwnitz, Moravia. His parents belonged to the community of the Moravian Brethren. C. studied at Herborn, and then at Heidelberg, after which he travelled through Holland and England, and at last settled at Lissa, Poland, where he was chosen bishop of the Moravian Brethren. In 1631, he published his *Janua Linguarum Reserata*, which was translated into many European, and even into some oriental languages. In this work, he points out a method of learning languages new at that time, which may be called the intuitive or perceptive system, in which the pupils were taught by a series of lessons on subjects easily understood or appreciable by the senses, such as natural history, the sciences, different trades, and professions, etc. C. published about the same time the *Ratio Disciplinae Ordinisque Ecclesiae in Unitate Fratrum Bohemorum* (1632), republished with remarks by Buddæus (Halle, 1702) and his *Pansophiæ Prodromus* (1639). In 1641, C. was invited to England, to assist in reforming the system of public instruction; but as the breaking out of the civil war prevented the execution of this design, he went to Sweden, where Oxenstiern gave him a commission to draw up a plan for the organization of schools in Sweden, which he completed at Elbing, four years afterward. He next went to Hungary for a similar purpose. Here he composed his celebrated *Orbis Sensualium Pictus*, or The Visible World (Nürn. 1658), the first picture-book for children, often reprinted and imitated. Finally he settled in Amsterdam, where he published several other works. He died at Naarden. In the latter years of his life, C. gave way to fanaticism, misinterpreted the Revelation of St. John to suit his fancies of the existing state of Europe, and expected the millennium in 1672. See Laurie's *Comenius, his Life and Work* (1881).

COMES, *kō'mēz*: ancient officer, with territorial jurisdiction: see EARL.

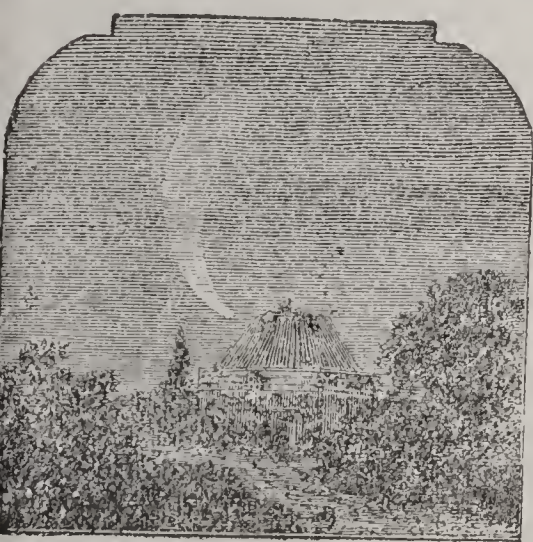
COMESTIBLE, a. *kōm-ēs'tī-bl* [F. *comestible*—from It. *commestibile*—from L. *comestum*, to eat, to consume]: eatable: N. an article of solid food. COMESTIBLES, n. plu *-tī-blz*, eatables.



Comet of 1811.



Donati's Comet, 1858.



View of Donati's Comet.



Comma.

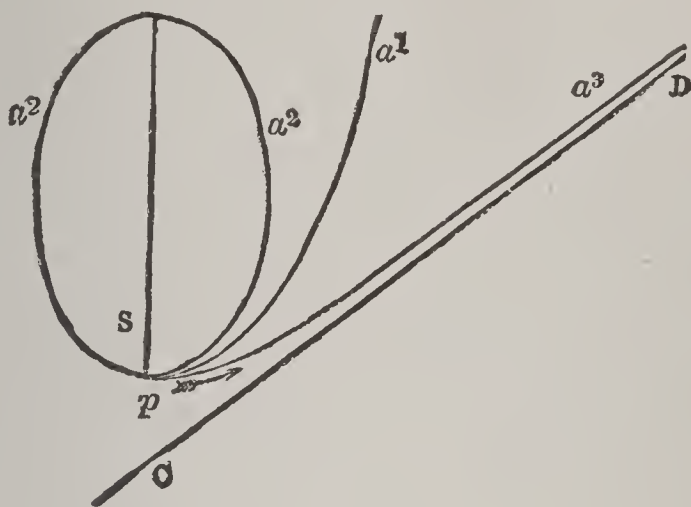
COMET.

COMET, n. *kõm'ět* [F. *comète*—from L. *comētēs*; Gr. *kõmētēs*—from Gr. *kõmē*, hair: It. *cometa*]: a hairy star; a celestial body accompanied with a train or tail of light, and revolving round the sun in an elliptic or parabolic orbit. COM'ETARY, a -*ēr-ě*, relating to a comet. COMET-A'RIUM, n. -*ā'rĭ-ŭm*, an instrument for explaining the revolutions of a comet. COMET-LIKE. a. COM'ETOG'RA-PHY, n. -*ět-ög'ră-fĭ* [Gr. *grapho*, I describe]: a treatise about comets. COM'ETOL'OGY, n. -*ět-ol'ō-jĭ* [Gr. *logos*, a discourse]: a discourse about comets. COMET-FINDER, or COMET-SEEKER, telescope used in searching for comets; its field is wide, but its magnifying power is not very high. A comet has for its general features a definite point or nucleus, a nebulous light surrounding the nucleus, and a luminous train preceding or following the nucleus. Anciently, when the train preceded the nucleus, as is the case when a C. has passed its perihelion, and recedes from the sun, it was called the beard, being termed the tail only when seen following the nucleus as the sun is approached. This distinction has disappeared from all modern astronomical works, and the name *tail* is given to the appendage, whatever its apparent position. Neither this luminous attendant, the tail, nor the nucleus, is now considered an essential cometary element, but all bodies are classed as comets which have a motion of their own, and describe orbits of an extremely elongated form. There are several plain points of difference between comets and planets. The planets move in the same direction, from w. to e., which is astronomically called 'direct motion;' but the movements of comets are often from e. to w., or retrograde. The orbits of all the planets are confined to a zone of no great breadth on either side of the ecliptic; but the paths of comets cut the ecliptic in every direction, some being even perpendicular to it. The orbits of all the planets are nearly circular; or, properly speaking, are ellipses of very small eccentricity. The orbits of comets, on the other hand, present every variety of eccentricity, some of them being ellipses or elongated closed orbits of various degrees of elongation; others, hyperbolas; while the majority have a form of orbit not differing sensibly from the parabola, which is the limiting form of curve to which both the ellipse and hyperbola approximate, under given conditions.

Let p be the point of perihelion passage of a C., and let the direction of its motion be in the direction indicated by the arrow. There is a certain velocity of motion at this point which would give the orbit the form of a parabola, pa^1 , the direction of motion always approached to being parallel with the straight line through pS . Any velocity less than this would cause it to describe a closed curve pa^2a^2 ; any greater velocity would cause it to describe the hyperbola pa^3 , in which case it would approximate to the direction of the straight line CD , and would never return. This would be the case if there were no disturbing force to interfere with the sun's attraction; and conversely, comets approaching the sun along the various paths above

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described, would pass the perihelion with the various velocities above indicated. Any attraction, however, of an extraneous body interfering with the attraction of the sun might change the orbit from the ellipse to the hyperbola, and *vice versâ*, or from the parabola to either. As, however, there is only one parabola corresponding to infinite sets of ellipses and hyperbolas, an interfering



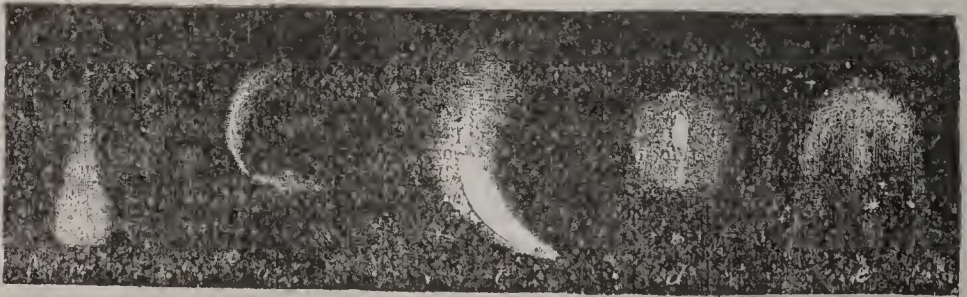
cause is not likely to change the orbit from an ellipse or hyperbola to the parabolic form. Of about 200 comets whose orbits have been obtained with more or less accuracy, 40 appear to have described ellipses, 7 hyperbolas, and 150 orbits that cannot be distinguished from parabolas.

The discovery that comets are celestial bodies, extraneous to our atmosphere, is due to Tycho Brahé, who ascertained the fact by observations of the comet of 1557. Newton succeeded in demonstrating that they are guided in their movements by the same principle which controls the planets in their orbits; and Halley was the first, by determining the parabolic elements of a number of comets from the recorded observations, to identify the comet of 1682 with one which had been observed in 1607 and the observations recorded by Kepler and Longomontanus, and also with a comet observed 1531 by Apian, at Ingoldstadt, and thus confidently to predict the return, at the end of 1758 or beginning of 1759, of a comet which would have the same parabolic elements. These parabolic elements are elements of a parabola nearly coincident with the elongated elliptic orbit of the comet. They are: 1. *The inclination*; 2. *The longitude of the node* (these two determine the plane of the orbit); 3. *The longitude of the perihelion*, or point of nearest approach to the sun; 4. *The perihelion distance*, or nearness of approach to the sun; 5. *The direction of motion*, whether *direct* or *retrograde*.

To determine these parabolic elements, three observations of the comet are sufficient; and by a table of such elements deduced from the recorded observations it is possible at once to ascertain whether any newly observed comet is identical with any that have been previously ob-

served. To predict, however, with accuracy the time of the return of a comet, a much more precise calculation must be made of the orbit, taking into account the perturbations of the planets to whose influence it is subject. This difficult problem was solved in the case of Halley's comet, by the joint work of Laland, Madame Lepante, and Clairaut, who announced, 1758, Nov., just as astronomers began to look out for the return of the comet, that it would take 618 days more to return to the perihelion than on the preceding revolution. The perihelion passage was fixed about the middle of April, 1759; but Clairaut distinctly forewarned the world that, being pressed for time, he had neglected small values, which collectively might amount to about a month in the 76 years. The comet passed the perihelion 1759, Mar. 12, exactly a month before the time announced, but within the assigned limits of divergence from that date. The elements of its orbit proclaimed it to be the comet of the former periods by their similarity. For the next perihelion passage the different calculations executed by MM. Damoiseau and De Pontécoulant, fixed 1835, Nov. 4, 7, and 13. Subsequently, observations indicated the 16th—that is to say, a deviation of only three days from what turned out the most accurate calculation, and a deviation of 12 days from the most remote. We have adverted to the perihelion passages of this comet in 1531, 1607, 1682, 1759, and 1835. It is now identified also with a comet observed 1456, and one in 1378, recorded by Chinese observations. There are no sufficiently reliable European observations previous to 1456; but it is conjectured by Arago that this comet is the same with the comet of 1305; that of 1230; a comet mentioned 1006 by Hali Ben Rodoan; that of 885; finally, a comet seen in the year 52 before Christ.

This account of Halley's comet has been given at length,



to illustrate the principles on which the calculations are made. The annexed wood-cut represents some of the appearances which that comet presented, in different parts of its orbit, on its last visit in 1835—*a*, *b*, *c*, in approaching the sun; *d*, *e*, in retreating. There are three other comets whose periodicity is established, and whose paths are accurately known:

1. That of Encke, with a short period of 1204 days. Its orbit does not extend so far as the orbit of Jupiter, and a slight acceleration in its periodic times of return has suggested the possibility of the space, within our solar system

COMET.

at least, being occupied by a resisting medium, though of extreme rarity.

2. That of Biela or Gambart, having a period of six years and three-quarters. During the visit of this comet, in 1846, it was seen to separate into two distinct comets, which kept moving side by side till they disappeared. On the return of the comet in the autumn of 1852, the distance between the two nuclei had much increased. Since then, although repeatedly due, it has not again been seen.

3. That of Faye, with a period of seven years and a half. The orbits of both these last mentioned extend beyond the orbit of Jupiter, but none so far as that of Saturn.

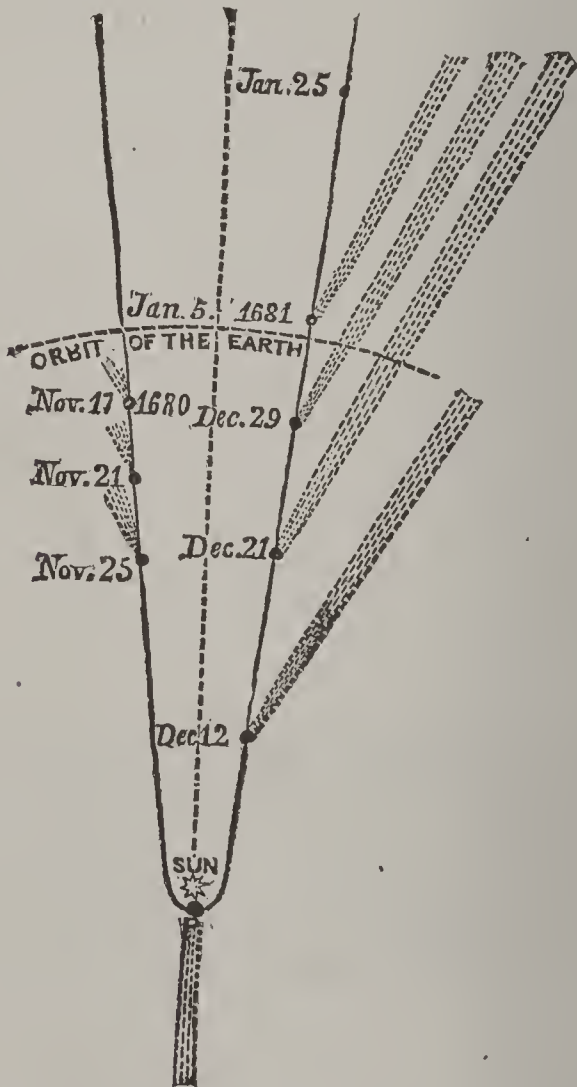
Besides these three, there are others whose orbits are ascertained with less accuracy and certainty, requiring the test of future returns to fix their periodicity. In all, some 15 periodic comets are known. One other deserves mention from the great peculiarities of its course.

In 1770, June, Messier discovered a comet which remained visible a long time, and enabled Lexell to ascertain the orbit to be an ellipse whose major axis was only three times the diameter of the earth's orbit, and corresponded to a periodic revolution of $5\frac{1}{2}$ years. This result suggested grave difficulties. It had been found impossible to identify this comet with any previously observed, and yet it was difficult to conceive that a bright comet, with so short a period of return, should have previously escaped observation. What was still more remarkable, it was never seen again, though anxiously looked for in the places where Lexell's orbit would have brought it. It became popularly called Lexell's lost comet, and gave occasion to many sarcasms by the wits of the day at the expense of astronomers, who had so much boasted of having found the key to the cometary movements. In the present day, the explanation is complete. The comet was never seen before 1770, because its orbit previously had been totally different, its nearest point to the sun having been as distant as the path of Jupiter. Its appearance that year arose out of the fact that in 1767 it was in such close contact with Jupiter, moving in the same direction, and nearly in the same plane, that the attraction of this planet entirely changed its orbit. But why has the comet not since been seen? Its passage to the point of perihelion in 1776 took place by day; and in 1779, before another return, it again encountered the vast body of Jupiter, and suffered a fresh orbital derangement, the attraction of the planet deflecting it into more distant regions, and so changing the form of the orbit, that if it had again been visible, it would not have been recognized as identical with Lexell's comet.

The celebrated comet of 1680, which furnished Newton with the occasion for proving that comets revolve round the sun in conic sections, and that, consequently, they are retained in their orbits by the same force as that which regulates the movements of the planets, appears to have been about the most remarkable for brilliancy of any of which there are authentic accounts. This comet is supposed to be identical with the one that appeared about the time of

COMET.

Cæsar's death (B.C. 44), with that which was seen in the reign of Justinian A.D. 531, and with another in 1106 in the reign of Henry II.—the period of revolution, according to the orbit calculated for it by Whiston, being about 575 years. There is, however, some doubt among astronomers as to the real form of its orbit, the one assigned to it by Encke giving it a period of 8,813 years. This comet approached nearer to the sun than any known, except perhaps the comet of 1843, the calculation of whose perihelion distance, from the paucity of observations, has little certainty. The comet of 1680 approached the sun within the 163d of the semi-diameter of the earth's orbit. The annexed diagram shows a part of its path; the same diagram shows



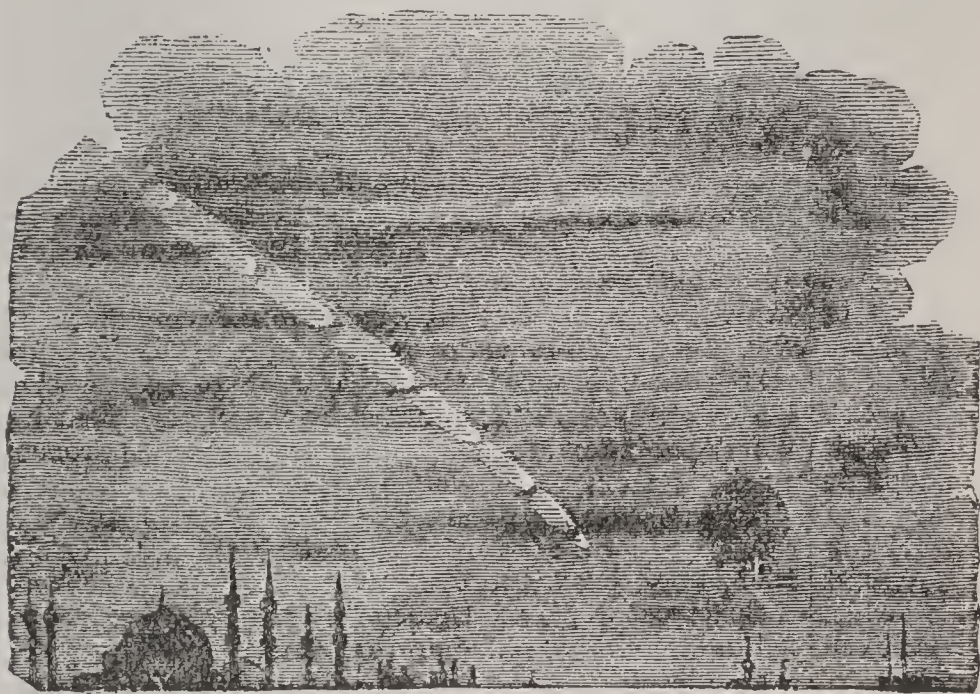
the direction of the tail. This is nearly always away from the sun, frequently assuming a curved form. It increases in length with its proximity to the sun, but does not acquire its greatest length till after passing the perihelion. These are usual characteristics of comets, which were exemplified by this one in a remarkable degree. These phenomena might be accounted for if we were to regard the train as vaporization produced by the intense heat to which the body of the comet is exposed in its approach to the sun.

COMET.

In the present century, the most brilliant comets have been those of 1811, 1843, 1858 (Donati's), 1861, 1880, 1881, and the great comet (*b*) of 1882.

Spectroscopic investigation, so far as yet pursued, points to the conclusion that the nucleus is self-luminous, but that the tail shines with reflected light. It has been discovered recently, in determining the tracks of those streams of dark bodies that cause meteoric showers, that some of the tracks coincide with the orbits of well-known comets. From this, it is inferred that star-showers and comets may be only different manifestations of the same thing: see METEORS.

What the material of the comets consists of is subject only for speculation. The composition of the nebulosity and the tail is, at all events, something of almost inconceivable tenuity, as shown by three considerations: 1. Stars seen through them suffer no diminution of brightness, though the light must have to traverse sometimes millions of miles of the cometary atmosphere. 2. Though the



Appearance of Halley's Comet at Constantinople in 1456.

thickness of the tail of a comet may be millions of miles, and its length of course much greater, the comets have never been observed to cause any sensible disturbance of the planetary motions, though approaching near enough to be themselves so much affected as to change the entire character of the orbit. 3. The curvature of the tails, and the acceleration of the periodic time, in the case of Encke's comet indicate their being affected by a resisting medium, which has never been observed to have the slightest influence on the planetary periods, though so long observed. Even the nuclei of comets appear to be of extremely small density. This may be inferred, though with less force than regards the tails, from the last two considerations above mentioned; moreover, there are trustworthy accounts of

COMFIT—COMFORT.

stars of a very low order of magnitude being seen through the nuclei themselves.

Comets have been alternately regarded with terror and with welcome in the popular mind. The appearance of Halley's comet, 1456, just as the Turks had become masters of Constantinople, and threatened an advance into Europe, was regarded by Christendom with a superstitious dread, and to the Ave Maria was added the prayer: 'Lord, save us from the devil, the Turk, and the comet.' At Constantinople, the occurrence of a lunar eclipse at the same time, increased the portentousness of the event. The discoveries of science of the magnitude of the space filled by their bodies, and their prodigious velocity, together with the confessed impossibility of always predicting their approach, produced fears of another kind, which have sometimes been, especially in France, extravagantly exaggerated in the public mind. The groundlessness of such alarms, from the extreme improbability of collision of our earth with the nucleus, the probable innocuousness of a contact with the extremely attenuated surrounding matter, and, possibly, to the greater part of the world, of a collision with the nucleus itself, is sufficiently evident from what has been said above. It is probable that already, on many occasions, some of the attenuated vapor in the tail of comets must have come within the earth's attraction, and been absorbed in its atmosphere. Whether the effect is deleterious or salubrious, or whether it has any perceptible influence at all, is matter only of speculation. The salubrity of cometary influence is now a popular idea; and the vintages of 1811 and 1858 were favorable seasons, whose produce is often advertised as the comet wines. This, like many other speculations on comets, has no scientific basis.

COMFIT, *n.* *kŭm'fĭt* [F. *confit*—from L. *confectus*, prepared, manufactured—from *con*, *facĕrĕ*, to make]: a sweetmeat, generally restricted to a caraway, coriander-seed, or almond, and suchlike, coated with sugar.

COMFORT, *n.* *kŭm'fĕrt* [F. *conforter*, to comfort, to strengthen—from mid. L. *confortāre*, to strengthen—from L. *con*, together; *fortis*, strong; Gael. *comh-fhur-tair*, a comforter]: ease or rest either to body or mind; support; he who or that which gives ease, support, etc.; consolation; moderate enjoyment with ease: V. to console; to strengthen; to encourage. COMFORTING, *imp.* COMFORTED, *pp.* COMFORTER, *n.* *-ĕr*, the person who, or thing which; the Holy Spirit; a warm wrap for the throat and chest. COMFORTABLE, *a.* *-ă-bl*, being in a state of ease or moderate enjoyment; giving comfort; placing above want. COMFORTABLY, *ad.* *-blĭ*. COMFORTABLENESS, *n.* *-ă-bl'nĕs*, the state of enjoying comfort.—COMFORTLESS, *a.* *-lĕs*, without anything to support or solace under misfortune or distress. COMFORTLESSLY, *ad.* *-lĭ*. COMFORTLESSNESS, *n.* the state of being without comfort.—SYN. of 'comfort, *v.*': to cheer; animate; encourage; enliven; exhilarate; console; solace; revive; invigorate; inspirit; gladden; recreate; refresh; strengthen, con-

COMFREY—COMINES.

COMFORT,—of 'comfort, n.': pleasure; enjoyment; consolation; support; solace; countenance; encouragement;—of 'comfortless': desolate; forlorn; miserable; inconsolable; wretched.

COMFREY, n. *kŭm'frĭ* [a supposed corruption of mid. L. *confirma*, a strengthener]: a showy native plant, formerly esteemed as a strengthener and healer; the 'common comfrey' is *Sym'phytum offic'inālĕ*; and the 'prickly comfrey' is the *S. asper'rimum*, ord. *Boragineæ*—both sometimes cultivated as forage plants.

COMFREY, *kŭm'frĭ* (*Symphytum*): genus of plants of the nat. ord. *Boragineæ*, distinguished by a 5-cleft or 5-partite calyx, and a corolla enlarged upward, its throat closed by awl-shaped scales. The species, which are not numerous, are natives of Europe and the n. of Asia. They are perennial plants of coarse appearance, though occasionally seen in flower-borders. *S. officinale* (the **COMMON C.**) and *S. tuberosum* are natives of Britain, frequent in shady and moist places. *S. officinale* was formerly much esteemed as a vulnerary, on account of its astringency. Its young leaves and its blanchéd shoots are occasionally used as boiled vegetables. The Prickly C. (*S. asper'rimum*), a native of Siberia, 6–10 ft. in height, has been highly recommended for feeding cattle



Common Comfrey.

COMIC, a. *kŏm'ĭk*, or **COM'ICAL**, a. *-ĭ-kāl* [F. *comique*—from L. *comĭcus*, pertaining to comedy (see **COMEDY**)]: relating to comedy; raising mirth; droll; diverting. **COM'ICALLY**, ad. *-lĭ*, in a manner that raises mirth. **COM'ICALNESS**, n. **COM'ICAL'ITY**, n. *-kāl'ĭ-tĭ*, that which is comical or ludicrous.—**SYN.** of 'comical': droll; ridiculous; ludicrous; laughable; diverting; sportive.

COMINES, or **COMYNES**, *ko-mĕn'*, **PHILIPPE DE**, **Sieur d'Argenton**: 1445–1509, Oct. 17; b. at the castle of Comines, not far from Lille, France. After receiving a careful education, he passed into the court of Burgundy about 1466, and attached himself particularly to Charles the Bold (then Comte de Charolais). In 1472, C., who was anything but punctilious in his notions of honor, entered the service of Louis XI., the rival and enemy of Charles, who immediately covered him with honors, and made him one of his most confidential advisers. He proved himself a very suitable agent for carrying out the designs of the crafty monarch; but after the death of

COMING—COMMA.

Louis, by his adherence to the party of the Duke of Orleans, C. incurred the displeasure of the government of Anne of Beaujeu, and was sentenced to a forfeiture of a fourth of his estates and to ten years' banishment. This punishment, however, does not seem to have been carried out, for after a few years C. was again employed in important diplomacy. Though engaged in the service of Charles VIII. and the Duke of Orleans, afterward Louis XII., C. failed to win the confidence of these masters. He died at his castle of Argenton. C.'s *Memoirs* are admirably written, and afford abundant proof that he possessed a clear, acute, and vigorous mind. He seems to have looked keenly into the heart of every man who was associated with him in life, and with cool, severe anatomy dissects him for the benefit of posterity. The best edition of his *Memoirs* was edited by Mdlle. Dupont (3 vols., Par. 1840-47).

COMING, a. *kŭm'ing* [see COME]: future; expected: N. arrival; approach; act of sprouting.

COMISO, *kŏm'ē-sō*: town of Sicily, province of Syracuse, about 40 m. w.s.w. of the city of Syracuse. It has paper manufactures: pop. 20,000.

COMITIA, n. plu. *kŏ-mŭsh'ī-ă* (L. *cum*, with or together; *ire*, to go): the legal or constitutional meetings of the Roman people, convened by a magistrate, for the purpose of putting a question to the vote. This definition at least comprehends all the C., except the *C. Calata*, where the people were merely present as spectators. See ROME (Ethnology and History of Anc. Italy). COMITIAL, a. *kŏ-mŭsh'ī-ăl*, relating to the popular assemblies of Rome.

COMITY, n. *kŏm'ī-tŭ* [L. *comitas*, kindness, affability—from *comis*, friendly]: courtesy; civility. COMITY OF NATIONS—frequently mentioned by its Latin equivalent, *comitas gentium*—in *international law*, courtesy by which the laws and institutions of one country are recognized and given effect to by those of another. 'In the silence of any positive rule,' says Mr. Justice Story, affirming, or denying, or restraining the operation of foreign laws, courts of justice presume the tacit adoption of them by their own government, unless they are repugnant to its policy or prejudicial to its interests.' See Story's *Conflicts of Laws*. See INTERNATIONAL LAW.

COMMA, n. *kŏm'mă* [Gr. *komma*, a part cut off—from *kopto*, I cut]: in written or printed compositions, the point (,) which is used to separate or point off phrases and imperfect clauses, and generally the simpler parts of a sentence, and which marks the shortest pause in reading; in *entom.*, a name given to a butterfly, *Grapta Comma album*, from the white mark, like a comma, on the under-side of the wing.

COMMA, in the Mathematical Study of Sound: term applied to two small intervals, which, by comparison and calculation, arise as the difference between the proportions of certain other intervals of the diatonic scale. The larger,

COMMAND.

but less frequent, C. is called the *C. ditonicum*, or the Pythagorean C., being the difference between the true octave, whose ratio is 2 : 1, and the interval which arises when the octave is obtained by tuning a progression of 12 perfect fifths, or arithmetically by adding their values together; by which process it is found that the last sound is greater than the true octave in the proportion of 531,441 to 524,288. The smaller C., *C. syntonum*, or C. of Didymus, is—First, the difference between the large whole tone, the ratio of which is 9 : 8, and the small whole tone 9 : 10, which is found in the compound of these ratios produced by multiplying together respectively their antecedents, 9 and 9, and their consequents, 8 and 10, to be 81 : 80. Second, the difference between the great limma, 27 : 25, and the great half-tone, 15 : 16, which is found by the same process, and then reducing the resulting ratio to its least terms, to be also 81 : 80. Third, the difference between the diesis, 128 : 125, and the diaschisma, 2048 : 2025, which by the same process gives 81 : 80; and lastly, the difference between the *small* limma, 135 : 128, and the small half-tone, 24 : 25, which again gives the proportions 81 : 80. The difference between the *C. ditonicum* and the *C. syntonum* is exactly the *schisma*; therefore, the aggregate of the diaschisma and schisma, if they be added together, is neither more nor less than the syntonic comma. This C., again added to the diaschisma, makes up the diesis, and added to the great half-tone, makes up the great limma. It follows therefore that, practically, two enharmonic tones in perfect tune never differ by a syntonic C., and it is wrong to say that *d* flat is higher than *c* sharp by a C., while the real difference is that of a diesis, 128 : 125. In the equal-tempered scale, these varieties do not exist. The term *syntonic* comes from the Greek, and means equal-sounding.

COMMAND, n. *kôm-mänd'*, or *-mänd'* [F. *commander*, to command—from L. *commendāre*, to intrust to one's charge, in *mid. L.*, to order—from L. *con, mando*, I order]: the act of commanding; power or authority over; an order or message with authority; a naval or military force under the authority of a particular officer; power of overlooking a place; in *mil.*, the height of the top of a parapet above the ground or another work: V. to bid, order, or charge with authority; to govern or direct; to have power over; to hold the position of power; to have within the observation of the eye; to overlook. COMMAND'ING, imp.: ADJ. fitted to impress or influence; authoritative; overlooking. COMMAND'INGLY, ad. *-lī*: COMMANDED, pp. COMMANDANT, n. *kôm'măn-dănt'* [F.]: the chief officer of certain military educational and training institutions; a title of certain commanding officers at certain stations; one in command of a fort. COLONEL COMMANDANT', an officer of the highest grade in the Artillery, Engineers, and Marines. COMMAN'DABLE, a. *-dă-bl*, that may be commanded. COMMAN'DATOR'Y, a. *-dă-tēr'ī*, having the force of a command. COMMAN'DER, n. *-dēr*, one who; in the *U. S. navy*, officer next under a capt.; equivalent in rank to licut col. in the army. He serves either as second in command in a

COMMANDER-IN-CHIEF.

large ship, or in independent command of a smaller vessel. **COMMAN'DRESS**, n. a woman who commands. **COMMAND-MENT**, n. a law; a precept; one of the precepts of the Decalogue. **COMMAN'DERY**, n. -*dér-î*, the body of knights, or the place of meeting, of any military order; e.g. the Freemasons who have reached the degree of Knights Templar; the estates and revenue of such order. **COM-MANDO**, n. *kôm-măn'dō* [Dut. a command]: in *s. Africa*, any force called out by public consent and border law. **COMMANDER-IN-CHIEF**, in *Great Britain*, the military officer who has the command and direction of the land forces, or of a portion of them on service out of the country; a generalissimo. **WORD OF COMMAND**, the brief order of a military superior. **TEN COMMANDMENTS**, the summary of the duties to God and man in the Jewish and Christian religions given at Mount Sinai; the Decalogue, recorded Ex. xx.—**SYN.** of 'command, v.': to order; direct; bid; govern; charge; overlook; — of 'command, n.': order; injunction; precept; control; power; authority; mandate; charge; direction; behest; — of 'commanding': imperative; imperious; authoritative; overlooking.

COMMANDER-IN-CHIEF, in the British Army: the highest staff appointment. It is held by the general commanding all the forces in India, and would probably be given to the leader of any *large* army in the field. Formerly the army at home was administered by an officer of this rank; but since the death of the Duke of Wellington, 1852, the military administration has vested in an officer holding no higher commission than that of 'general on the staff,' who is called the general (or field-marshal, according to the holder's army rank) commanding in chief. Since 1855 this officer has been strictly subordinate to the secretary of state for war. Under the 'War Office Act' of 1870, and by orders in council of that year, the officer commanding in chief is one of the three great officers who administer the military affairs of the country under the secretary of state for war; his department being that of military command, discipline, and promotion. In practice, he makes all promotions and military appointments; though, in theory, these are made on the responsibility of the secretary of state. Appointments to very important positions on the staff would not be made without the supervision of the minister and probable concurrence of the cabinet. The officer commanding in chief is responsible for all recruiting operations, and for the appropriation of troops to particular localities; but he exercises rather a general inspectional control than any immediate command over the men. The actual command vests in the general officers commanding the districts into which the kingdom is parcelled. A British *naval* C. is the chief admiral at any port or station.

In the United States the president is the commander-in-chief of all the land and naval forces. The land forces have been at different times under the immediate command of a special appointee, bearing the rank of 'general.' Governors of states are usually commanders-in-chief of the militia of their respective states.

COMMANDITE—COMMEMORATE.

COMMANDITE, *kõm-mõng-dêt*, **SOCIÉTÉ EN, or PARTNERSHIP IN**: expression used for at least two centuries in France, to express a partnership in which one may advance capital without taking charge of the business, or may become a 'sleeping partner.' The term owes its origin to the old meaning in the commercial nomenclature of France of the word *command*, which was applied to one person authorizing another to transact business for him. The working partner had a *commande* from him who merely advanced capital. The term has acquired importance of late in political economy, because the law of France could exempt the sleeping partners from responsibility beyond the amount they might agree to be responsible for; while by the law of the United Kingdom, until the passing of the limited liability act, every partner of a company was liable for all its debts.

COMMANDMENTS OF THE CHURCH: rules established by the Rom. Cath. Church to be enforced by parents and others having legal authority upon all persons under their care. They depend on the authority of the church rather than in direct terms on the Scriptures. The English and French catechisms contain six such rules; others have five only. As now generally observed in the United States they are in brief: (1) to keep certain days holy, with the obligation of resting from servile work; (2) to hear mass on Sundays and holidays of obligation; (3) to keep the days of fasting and abstinence; (4) to confess once a year; (5) to communicate at Easter or thereabouts; (6) not to marry within forbidden degrees, or at forbidden times. The last commandment is omitted in many catechisms.

COMMEASURABLE, a. *kõm-mězh'úr-ă bl* [L. *con*, and *measurable*]: having a common measure.

COMMELYNACEÆ, *kõm-mě-lĩ-nā'sē-ē*: natural order of endogenous plants, consisting of herbaceous plants, with flat, narrow leaves, usually sheathing at the base. The calyx is 3-partite; the petals three, sometimes cohering at the base. The stamens are six, inserted under the ovary, which is 3-celled; the style is single. The fruit is a capsule, with 2—3 cells and 2—3 valves, bursting through the middle of the valves. The seeds are often in pairs, inserted by their whole side on the inner angle of the cell; the embryo lies in a cavity of the albumen. The order contains more than 260 known species, natives chiefly of warm climates; but a few occur in N. America. None are European. *Tradescantia Virginica*, or SPIDER-WORT, is a familiar example of the order. *Commelina cælestis* is an ornament of flower-gardens. The treatment is somewhat like that of the dahlia.

COMMEMORATE, v. *kõm-měm'õ-răt* [L. *commemōrātus*, called to memory—from *con*, together; *memor*, mindful]: to call to remembrance by a special act; to do honor to the memory of an individual or some act of his; to celebrate with honor some past event. **COMMEM'ORATING**, imp. **COMMEM'ORATED**, pp. **COMMEM'ORA'TION**, n. *-ră'shũn*

COMMEMORATION—COMMENDAM.

[F.—L.]: the act of calling to remembrance by some special act or solemnity; the act of honoring the memory of a person or an event. **COMMEM'ORATIVE**, a. *-tív*, or **COMMEM'ORATORY**, a. *-rá-těr-ě*, serving or tending to preserve the remembrance of. **COMMEM'ORABLE**, a. *-rá-bl*, worthy to be remembered.

COMMEMORA'TION, or **ENCÆNIA**, *ěn-sě'ně-a*: great festival of the Oxford academic year, usually on the third Wednesday after Trinity Sunday. It is of very ancient date, public exercises and recitations having been held from time immemorial in honor of the Act, or period when masters of arts and doctors complete their degrees. The proceedings consist of a Latin oration in honor of founders and benefactors; the presentation of the honorary degree of D.C.L. to strangers eminent in science, politics, etc.; and the recitation of the Newdigate or English prize poem, the Latin prize poem, and the Latin and English prize essays. C. day is the culmination of a week of gayety and festivity. The more strictly academic and solemn portion of the public proceedings sometimes receives scanty attention from a great part of the audience; and the noisy humors of the gallery have often encroached on the stately periods of the public orator. In 1876 the undergraduates were removed from the special gallery that they had occupied, and distributed among the general audience of ladies and strangers as well as members of the university.

COMMENCE, v. *kõm-měns'* [F. *commencer*, to commence — from It. *cominciare*, to begin — from mid. L. *cominĩtiũrě*—from L. *con*, *inĩtiũrě*, to begin]: to begin; to originate or enter upon; to begin to be; to perform the first act or part. **COMMENC'ING**, imp. **COMMENCED'**, pp. *-měnst'*. **COMMENCE'MENT**, n. *-měnt*, beginning, rise, or origin; first existence; the great annual day on which degrees are conferred by colleges and universities; a similar day at Oxford is called 'The Commemoration.'

COMMEND, v. *kõm-měnd'* [L. *commendũrě*, to commit to one's favor—from *con*, *mandũrě*, to commit, to consign: It. *commendare*: F. *commender*]: to represent as worthy or suitable; to speak in favor of; to praise; to intrust or give in charge; in *OE.*, to recommend to remembrance; to send greetings or compliments. **COMMENDS'**, n. plu. expressions of courtesy and respect. **COMMEND'ING**, imp. **COMMEND'ED**, pp. **COMMEN'DER**, n. one who. **COMMEN'DABLE**, a. *-dã-bl*, worthy of praise or approbation; laudable. **COMMEN'DABLY**, ad. *-bli*, in a manner worthy of commendation. **COMMEN'DABLENESS**, n. *-bl-něs*, state of being commendable. **COMMEN'DA'TION**, n. *-dã'shũn*, approbation or praise; declaration of regard; eulogy. **COMMEN'DATORY**, a. *-těr-ě*, serving to commend; containing praise.

COMMENDAM, n. *kõm-měn'dãm* [mid. L. *in commendam dũrě*, to give in charge for a time: L. *commendam*, that ought to be intrusted to—from *commendo*, I commit or intrust to]: a vacant church living intrusted to the charge of a qualified person till it can be supplied with an incumbent:

COMMENSAL—COMMENT.

the holding of a vacant benefice, or the intrusting of its revenues to another for a time. COM'MENDATOR, n. -dā'tēr, one who holds a benefice for a time: in Scotland, in Rom. Cath. times, a steward appointed to levy the fruits of a benefice during a vacancy—an appointment which was a cloak for a plurality of benefices in evasion of the canon of the second council of Nice: see ABBOT. COMMEN'DATORY, a. -dā-tēr-ī, holding *in commendam*. — In the Church of England, when a clergyman is promoted to a bishopric, all his other preferments become void from the moment of consecration; but a method was devised by which the substantial interest in the living was retained by its being *commended* by the crown to the care of a bishop (called the commendatory) till a proper pastor should be provided. Such a living was called an *ecclesia commendata*, and it was said to be held *in commendam*. The holding on this title might be really temporary for one, two, or three years, or it might be perpetual. By 6 and 7 Will. IV. c. 77, s. 18, it is provided that no ecclesiastical dignity, office, or benefice shall be held in C. by any bishop, unless he shall have held the same when the act passed.—Stephen, iii. 37.

COMMENSAL, n. kōm-měn'sāl [L. *com*, together; *mensa*, a table]: in *OE.*, one who eats at the same table; a guest or companion at table; a messmate; in *zool.*, applied to animals which live on or in other animals, sharing the food of their hosts, but not feeding upon them, thus not being truly parasitic. COMMEN'SALISM, n. -sāl-izm, the union of a non-parasitic kind between two animals, as that of an actinia when it fixes itself on the back of a crab. COMMENSALITY, n. kōm'měn-sāl'ī-tī, or COM'MENSA'TION, n. -sā'shūn, in *OE.*, companionship at table.

COMMENSURATE, a. kōm-men'sū-rāt [L. *commen'surātus*, measured in comparison with—from *con*, *mensūrā*, a measure]: equal; proportional; having equal measure or extent. COMMEN'SURATELY, ad. -lī. COMMEN'SURATENESS, n. COMMEN'SURABLE, a. -sū-rā-bl [F. *commensurable*—from L. *con*, *mensurābilis*, that may be measured]: having a common measure; reducible to a common measure. Two quantities or numbers are said to be commensurable which are of the same kind, and each of which contains a third quantity or number a certain number of times without remainder: see INCOMMENSURABLE MAGNITUDES. COMMEN'SURABLY, ad. -blī. COMMEN'SURABIL'ITY, n. -rā-bīl'ī-tī, the capacity of being compared with another in measure, or of having a common measure. COMMEN'SURA'TION, n. -sū rā'shūn, proportion in measure.

COMMENT, n. kōm'měnt [F. *commenter*, to comment—from L. *commentārī*, to think of in all its bearings; akin to Skr. root, *man*, to think]: a note or remark intended to illustrate a writing, or explain a difficult passage in an author; that which explains or illustrates; explanation; observation: V. to write notes to explain and illustrate the meaning of an author; to expound or explain; to make remarks or observations. COM'MENTING, imp. COM'MENTED, pp. COMMENTARY, n. kōm'měn-tēr-ī, an explanation or

COMMENTITIOUS—COMMERCIAL REGISTER.

illustration of a difficult or obscure passage in an author; a book of comments or notes; a familiar historical narrative. COMMENTATE, v. *kõm'měn-tăt*, to write comments or notes upon. COM'MENTA'TING, imp. COM'MENTA'TED, pp. COM'MENTA'TOR, n. *-tăt'tér*, one who writes notes to explain an author; an expositor or annotator. COM'MENTATO'RIAL, a. *-tăt-tõ'rĩ-ül*, having or exhibiting the character of a commentator. COM'MENTER, n. one who.

COMMENTITIOUS, a. *kõm'měn-tĩsh'üs* [L. *commentit'üs*, invented, new]: in *OE.*, fictitious; imaginary.

COMMENTRY, *kõm-mõng-trě*: town of France, dept. of Allier, eight m. s.e. of Montluçon, on the Ceuil. It stands in the centre of one of the most important coal-fields of France, and within the last 50 years has risen from a mere village to a busy and populous town. The people are mostly engaged in the coal-mines and iron-works. A railway connects it with Montluçon and other places, and with the Canal de Barry. In 1846, a fire consumed an enormous quantity of the coal in the mines. Pop. 10,000.

COMMERCE n. *kõm'měrs* [L. *commercium*, trade, traffic—from *con*, *mercem*, goods, wares: It. *commercio*: F. *commerce*]: an interchange of productions and manufactures between nations or individuals; trade; traffic; intercourse; generally, international or foreign trade as distinguished from domestic; a certain game at cards: V. to hold intercourse with; to traffic. COMMERCIAL, a. *kõm-měr'shāl*, pertaining to commerce or trade. COMMER'CIALLY, ad. *-shāl-łĩ*.—SYN. of 'commerce, n.': trade; traffic; dealing, interchange; intercourse; communication.

COMMER'CIAL LAW: see MERCANTILE LAW.

COMMERCIAL REGISTER: compilation of facts concerning the financial standing of persons and firms engaged in business, designed as a precaution against loss in commercial transactions. Large firms have their own systems of credit, by which they become familiar with the financial history of their customers and know whom to trust and for what period. In the United States the panic of 1837 shattered the credit system, and led to the establishment of a Mercantile Agency which obtained the fullest information possible of the status of business men everywhere, and gave the information to all its subscribers. The first agency of the kind was established 1841 by Arthur Tappan, in New York; the firm subsequently became Tappan & Douglass, and, 1859, R. G. Dun & Co. John M. Bradstreet, a lawyer of Chicago, removed to New York, and established a second agency soon after Mr. Tappan opened the first, which is (1888) conducted by an incorporated company under the presidency of Charles F. Clark. The Bradstreet reports were first issued to subscribers in sheets of three or four pages, but those of both agencies are now supplied in large books, one every quarter. They are issued to subscribers only, with the understanding that none others shall have access to them. See BLACK LIST.

COMMINATION—COMMISSARY.

COMMINATION, n. *kõm'mǎ-nā'shǔn* [F. *commination*—from L. *commīnatiōnem*, a threatening—from *con*, *minor*, I threaten]: denunciation of punishment or vengeance; office in the Church of England containing a recital of God's threatenings, used only on Ash-Wednesday. In the earliest ages, those guilty of grievous and notorious sins were put out of the church, until, on repentance, and after long trial, they were restored to full communion. It seems that, at least from the beginning of the 8th c., there was an office of such restoration for public penitents on the first day of Lent; but from various causes the penitential discipline became extinct, both in the Eastern and Western churches, and the office for Ash-Wednesday (so called from the penitents coming clad in sack-cloth and ashes) is the only memorial of it left. The office, as used in the Church of England, is nearly the same as those found in the Salisbury and York missals. The curses contained in Deut. xxvii. against impenitent sinners are read, and the congregation answer 'Amen' to every sentence, as acknowledging the justice of the sentences. See Bingham's *Antiquities*. **COMMİN'ATORY**, a. *-mǐn'ǎ-tēr-ǎ*, threatening.

COMMINGLE, v. *kõm-mǐng'gl* [L. *con*, and *mingle*, which see]: to mix together into one mass.

COMMİNUTE, v. *kõm'mǎ-nūt* [L. *commīnūtus*, separated into small parts—from *con*, *mīnuō*, I lessen]: to make small or fine; to pulverize by pounding. etc.—not applied to liquids. **COM'MINU'TING**, imp. **COM'MINU'TED**, pp. made small; reduced in amount or extent. **COM'MINU'TION**, n. *-shǔn*, the act of reducing or lessening. **COMMİNUTED FRACTURE**, in *surg.*, a fracture of the bone in which the bone is much broken, or in small pieces.

COMMISERATE, v. *kõm-mǐz'ér āt* [L. *commiserātus*, commiserated, pitied—from *con*, *miseror*, I pity: It. *commiserare*, to pity]: to look upon with pity and concern; to have compassion on; to sympathize with in distress; to be sorry for. **COMMIS'ERATING**, imp. **COMMIS'ERATED**, pp. **COM-MIS'ERA'TOR**, n. *-ter*, one who pities. **COMMIS'ERA'TION**, n. *-ǎ'shǔn* [F.—L.]: a feeling of pity for; compassion; sorrow for the distress of others. **COMMIS'ERATIVE**, a. *ǎ-tǐv*, piteous; compassionate. **COMMIS'ERA'TIVELY**, ad. *-lǐ*.—**SYN.** of 'commiserate': to pity; condole; compassionate; lament;—of 'commiseration': mercy; pity; compassion; sympathy; sorrow.

COMMISSARY, n. *kõm'mǐs-sér-ǎ* [F. *commissaire*, a commissioner—from mid. L. *commissāriūs*, one to whom anything is intrusted—from L. *con*, *missus*, sent]: one to whom is committed some duty or office; a delegate, nearly equivalent to commissioner; in *milit.*, an officer who has the charge of providing provisions, clothing, tents, transports, etc., for an army. **COM'MISSARYSHIP**, n. the office of. **COM'MISSA'RIAT**, n. *-sǎ'rǐ-ǎt*, in *an army*, the department or office of a commissary; the organized system whereby armies are provided with food, and daily necessities other than those connected with actual warfare. Among the ancients the Romans attended best to the C.: the *questors* were the com-

COMMISSARY—COMMISSION.

missaries. In feudal times, the soldiers were mainly dependent for food on their lords; but they lived very much by plunder. During the wars of the Crusades, the C. was so utterly neglected, that thousands in the armies died of starvation.

In England, the first germ of the modern C. appeared in the office of *proviand-master*, in the time of Queen Elizabeth. Under Charles I., commissaries were stationed in the different counties. After various re-organizations, the Commissariat was merged, 1870, with other supply departments in the great 'Control Department;' and, 1875, the 'Commissariat and Transport Department' took the place of that board.

In the U. S. army this department is in charge of an officer with the rank of brig.gen., entitled the 'Commissary of Subsistence.' COM'MISSA'RIAL, a. pert. to a commissary. COMMISSARY-GENERAL, a chief officer of the commissariat department.

COM'MISSARY, in Ecclesiastical Law: officer appointed by a bishop to exercise jurisdiction in parts of the diocese so distant from the episcopal city that the people cannot be conveniently summoned to attend the principal court. For the history and jurisdiction of the commissary courts in Scotland, which, later, had similar duties, see Alexander on *Practice of the Commissary Courts in Scotland*, 1858.

COMMISSION, n. *kôm-mish'ün* [F. *commission*, a message, a commission—from L. *commissiōnem*, the commencement of a play or contest, in *mid. L.*, a mandate, a charge: L. *commissum*, that which is intrusted—from *con*, *missus*, sent: It. *commissione*]: the act of doing or committing anything; the state of acting by authority for another; the fee allowed and paid to an agent for the sale of property or goods; one or more persons appointed to perform certain duties; a written warrant or letter patent (see PATENT), authorizing and ordering one or more persons to perform duties or exercise powers belonging to another, or to others. Instruments of delegation, bearing this title, are issued to officers in the army and navy, judges, justices of the peace, and others: another class of commissions are those granted to a body of persons, either to inquire into the condition of certain institutions or branches of the public service, or to exercise certain powers, or execute certain measures for their improvement. COMMISSION, v. to empower; to give authority to; to depute. COMMIS'SIONING, imp. COMMIS'SIONED, pp.-*ünd*. COMMIS'SIONER, n. -*ün-ér*, one who holds authority for the doing of something. COMMISSION MERCHANT or AGENT, one who transacts business in buying and selling the goods of others, receiving for his remuneration a certain rate per cent.; a broker or factor, often called a consignee, as one to whom the goods are consigned. To PUT A SHIP INTO COMMISSION, in *the navy*, to prepare a ship and put it into active service. To PUT THE GREAT SEAL INTO COMMISSION, to place it in the hands of certain persons till the appointment of a new lord chancellor. *Note*.—Any important secular office is placed *in commission* by intrusting certain persons

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with the discharge of its duties till a new appointment be made.—SYN. of 'commission, v.': to authorize; empower; accredit; appoint; depute; delegate;—of 'commission, n.': authority; mandate; charge; warrant; an order; office.

COMMISSION, GENEVA (HIGH JOINT): see GENEVA ARBITRATION.

COMMISSIONAIRE, n. *kõm-mışh'ũn-är'* [F. *commissionnaire*, an errand-porter (see COMMISSION)]: one of a class of men employed to convey messages, and perform a variety of commissions; an errand-porter; one of a class of attendants at hotels in European continental countries, who perform certain miscellaneous services. Employed to attend at the arrival of railway-trains and steamboats to secure customers, they wait to take charge of luggage, see it passed through the hands of the custom-house officers, and send it on to the hotel; for all which service they charge a fee. They likewise procure visés to passports, and act as valets-de-place, and may be hired by the day to conduct strangers to galleries of art and other public places of interest: see COURIER.

COMMISSION DEL CRE'DERE: see DEL CREDERE COMMISSION.

COMMISSION OF ASSEMBLY: see GENERAL ASSEMBLY.

COMMISSIONS, ARMY: warrants for serving in certain military or naval offices. Those holding such authority are called *commissioned officers*. Non-commissioned officers form a step intermediate between commissioned officers and private soldiers. Before 1871, Nov. 1, commissions in the British cav. and inf. were partly obtained by purchase, under the system, now abolished, called the PURCHASE-SYSTEM (q.v.): see also PROMOTION: OFFICERS, MILITARY AND NAVAL.

COMMISSURE, a. *kõm-mışh'úr* [L. *commissura*, a knot, a joint—from *con*, *missus*, sent: F. *commissure*: It. *commessura*]: a joint or seam; the place or point where two bodies or their parts meet and unite; in *anat.*, a bond or bridge connecting two structures, especially nerve-centres. COMMISSURAL, a. *kõm-mışh'ũ-rål*, connecting together; applied to nerve-fibres which unite different ganglia.

COMMIT, v. *kõm-măt'* [L. *committĕre*, to bring together, to trust—from *con*, *mittĕre*, to send: It. *commettere*; F. *commettre*, to commit]: to put into the hands or power of another; to intrust; to send for confinement; to deposit as in the memory; to do or effect; to perpetrate; to engage or pledge; to refer, as to a committee. COMMITTING, imp. COMMITTED, pp. COMMITTER, n. one who. COMMITTAL, n. or COMMITMENT, n. a sending to prison; an order for confinement in prison (see IMPRISONMENT); the act of referring to or intrusting to; a doing or perpetration; the act of pledging or engaging. COMMITTEE, n. *kõm-măt'tē*, a number of persons chosen to consider and manage any matter. COMMITTEESHIP, n. COMMITTEE, n. *kõm'măt-tē*, the person to whom the custody of an idiot, or a lunatic, or his estate, is committed by the

COMMITTEE.

lord chancellor, who is called the *commit'tor*. COMMITTEE, a. -tī-bl, that may be committed. STANDING COMMITTEE, a committee which continues to the end of the session, and is appointed for definite purposes; a committee of a somewhat permanent character appointed by any society or association. To COMMIT ONE'S SELF, to engage to do what may not be recalled with honor.—SYN. of 'commit': to intrust; confide; consign; refer; deposit; do; perform; effect; perpetrate; compromise; expose; endanger.

COMMITTEE [Fr. *comité*]: number of persons, usually not less than three, selected from a more numerous body of members, to whom some special act to be performed, or investigation to be made, is *committed*. But though a C. usually consists of several members of the body by which it is appointed, it may consist of one member, or, what is more frequent, of the whole body of members acting in a different capacity from that which usually belongs to them. This latter form of C. is known in legislative bodies as a C. of the whole house. In order to mark the distinction between the house itself and the same body when thus resolved into C., the speaker in the English house of commons, and the chancellor in the house of lords, as soon as the C. is formed, leave the chair, which is occupied by the chairman of C., a paid official, appointed at the commencement of every parliament. In the commons, moreover, the mace, which usually lies on the table, is put under it when the house goes into committee. Of committees of the whole house, the most familiar examples are committees of Supply (q.v.) and of Ways and Means (q.v.). The vote of a C. is of no force till it has been reported to and received by the house. In the case of every public bill, moreover, a C. of the whole house is constituted after the second and before the third reading, that the details of the measure may be more carefully adjusted. In private bills, analogous functions are performed by select committees. Occasional matters requiring special investigation also are remitted to select committees. In 1883, the house delegated part of its functions to *Grand* or *Standing* Committees—one for law affairs, the other for trade, shipping, and manufactures. Bills are in every case to be committed to them by order of the house. Each committee has from 60 to 80 members, nominated by the committee of selection; and the procedure is as in select committees.

The utility of a C. is strikingly seen in the transaction of business in the U. S. congress, where every bill after introduction is referred to an appropriate C., which considers it and recommends its adoption or rejection; many bills also originate in C. In the senate there are (1888) 41 standing and 7 select, and in the house 54 standing C.'s. Nearly all of these are fixed, special ones being appointed as business may require, and sometimes both houses will appoint members of a joint C. on a particular measure. As all bills providing for the raising and expenditure of money must by law originate in the house of representatives, its committees are invested with great responsibilities. The most important C., is the C. on Ways and Means, consisting of 13 members, which has charge of all matters per-

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taining to the revenue. A bill originating in this C. usually takes the name of its chairman. Next to this C. in importance is that on Appropriations. For the committees of congress, see CONGRESS, UNITED STATES.

COMMIX, v. *kõm-mìks'* [L. *commixtus*, mingled together—from *con*, *mixtus*, mixed]: to mingle or blend. COMMIX'TURE, n. *-tûr* [L. *con*, *mixtura*, a mixing, a mixture]: state of being mingled; union in one mass; incorporation. COM-MIXTION, n. *kõm-mìkst'yûn*, in *OE.*, a mixing or blending in one mass; incorporation; commixture.

COMMUNE, n. *kõm-mõd'* [F. *commode*, commodious—from L. *commõdûs*, suitable]: a small sideboard with drawers and shelves; a head-dress formerly worn by women; a convenient article of bedroom furniture.

COMMODOUS, a. *kõm-mõ'di-ûs* [mid. L. *commodiõsus*, useful—from L. *commõdûs*, complete, suitable—from *con*, *modus*, a measure, a manner: It. *comodo*; F. *commode*]: entirely suited to the purpose for which made; convenient; suitable; useful. COMMO'DIOUSLY, ad. *-lî*. COMMO'DIOUSNESS, n. convenience; suitability for its purpose. COM-MODITY, n. *kõm-mõd'î-tî*, anything that is useful; any object of commerce; anything that can be bought or sold, animals excepted; goods; wares; merchandise.—SYN. of 'commodious': convenient; suitable; handy; useful; fit; proper; comfortable;—of 'commodities': goods; merchandise; wares.

COMMODORE, n. *kõm'mõ-dõr'* [Sp. and Port. *comendador*, a knight commander, a prefect: F. *commandeur*, a governor or commander]: in the *navy*, a commander of a squadron or detachment of ships, in rank next below a rear-admiral and above a capt.: the senior captain of two or more ships of war cruising in company; the leading ship in a fleet of merchantmen. A C. commanding more ships than one, hoists at that time a broad pendant. A C. is privileged to have a commander under him in his ship, in the same way as an admiral is privileged to have a captain. On the reorganization of the *personnel* of the U. S. navy in 1899 the grade of C. on the active list was abolished. The list of rear-admirals was enlarged to 18, the first nine being officers then holding that rank; the second nine being C.'s promoted to it.

COM'MODUS, LUCIUS AURELIUS, Roman emperor: A. D. 161—192, Dec. 31; son of Marcus Aurelius Antoninus. When he was summoned to the throne on his father's decease, 180, Mar. 17, he manifested a shameful eagerness to plunge into the dissipations of Rome. At that period he was successfully fighting the Marcomanni and other tribes on the upper Danube, and, not to be balked of his anticipated pleasures, he hastily concluded a treaty with the barbarians, and reached the capital in the beginning of the autumn. The cruelty to which he was always prone, was especially called into action after a conspiracy by his sister Lucilla against his life had been discovered in 183. Nearly all who, by virtue, ability, and learning, had risen to honor during his father's lifetime, were sacrificed to ap-

pease his savage jealousy of the good and the great. Gross prodigality in the expenditure of the resources of the state on the amusements of the amphitheatre also marked his reign. He was proud of his own physical strength, and exhibited it in gladiatorial combats. For each of these exhibitions, he charged the state an enormous sum. He used also to sing, dance, play, act the buffoon, the pedler, or the horse-dealer, and engage in all the filthy and horrible orgies of Egyptian sacrifice. A glutton, a debauchee, who wallowed in the most sensual abominations, he yet demanded to be worshipped as a god, and assumed the title of Hercules Romanus. Many plots were devised against the life of this mingled monster and madman, and at last one of them accomplished its purpose. His mistress, Marcia, in concert with the prefect Laetus and the imperial chamberlain Eclectus, after they had failed in an attempt to poison him, caused him to be strangled by Narcissus, a famous athlete.

COMMON, a. *kõm'mõn* [F. *commun*, common—from L. *commūnis*, that which is common—from *con mūnis*, the obligation of service or duty: It. *commune*] belonging equally to more than one; serving for the use of all; usual or ordinary; without rank; not distinguished by superior excellence; in *gram.*, applied to nouns that are both masc. and fem.: N. a tract of ground belonging to no one in particular, or open to the use of all. COM'MONLY, ad. *-lĩ*, usually. COM'MONNESS, n. the state of being common. IN COMMON, in joint possession or use; participated in equally by certain others. COMMONABLE, a. *-ā bl*, held in common. COM'MONAGE, n. *-āj*, the right of pasturing on a common; the right of using anything in common with others. COM'MONALTY, n. *-āl-tĩ*, the common people; all classes and conditions of people below the rank of nobility. COM'MONER, n. *-ēr*, in England, one under the rank of nobility; a member of the house of commons; a student of the second rank who pays board, in the University of Oxford; in *OE.*, a prostitute; a sharer in common. COM'MONS, n. plu. *-mõnz*, in *Great Britain*, the lower house of parliament (see PARLIAMENT). whose members are elected by the people; the lower people; food provided at a common table; the dinner provided in English colleges and inns of court for their members. In the inns of court, it is provided only during term. Separate tables are appointed for the benchers (q.v.), for the barristers, and for the students and other members of the inn. SHORT-COMMONS, insufficient fare; stinted diet. DOCTORS' COMMONS, in London, a college for the professors of the civil law having a great registry of wills. COM'MONTY, n. *-mõn-tĩ*, in *Scots law*, land belonging to two or more persons, generally heath or moorland. COMMON-WEAL *-wēl* [L. *communis*, and *weal*]: the public good; the body politic. COMMON-WEALTH, n. *-wēlth*, a country in which a free and popular government exists; the whole body of the people in a country; in *Eng. hist.*, the form of government established under a council of state, including also the Protectorate under Oliver Cromwell — from the death of Charles I., 1649, to the

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restoration of Charles II., 1660 (see CROMWELL, OLIVER); a republic. COMMON-LAW, unwritten law binding by usage. COMMON-SENSE, exercise of the judgment in relation to common or every-day matters unaided by any art or system of rules; plain wisdom as the common heritage of man. OUT OF THE COMMON, unusual; not common. COMMON-COUNCIL, the governing body of a city or corporate town. COMMON-LOOKING, having a plain, ordinary appearance. COMMONPLACE, ordinary; neither new nor striking. COMMONPLACE-BOOK, a book in which things wished to be remembered are recorded and arranged under general heads for ready reference. COMMON MEASURE, in *arith.*, a number which will divide each of two or more numbers exactly. COMMON PRAYER, the liturgy of the Church of England. COMMON PLEAS, *-plēz*, one of the high courts of law held in Westminster Hall. COMMON-RAFTER, one in a roof to which the boarding or lathing is attached. COMMON-RECEPTACLE, the surface from which the inflorescence springs in composite or similar plants. COMMON RESERVOIR, a name applied to the earth, because, being a good conductor of electricity, it draws it off from every electrified conductor which is not insulated, and tends, unless other causes operate with counteracting effect, to diffuse the electricity thus obtained through the whole extent of the globe.—SYN. of 'common, a.': vulgar; ordinary; mean; public; usual; general; popular; universal; national; frequent; habitual; familiar; commonplace; stale; customary; trite; threadbare;—of 'commonly': usually; generally; ordinarily; frequently;—of 'commonwealth': state; republic; realm; the public.

COMMON, in Law: in England, as defined by Blackstone, is 'a profit which a man hath *in the land of another*, as to feed his beasts, to catch fish, to dig turf, to cut wood, or the like.' In Scotland, such profit, or right to derive profit, is known as *Servitude* (q.v.), whereas a C., or Commonalty, as it is more frequently called, is a common right of property existing in several individuals, frequently the inhabitants of a whole village, in a piece of ground. In each individual, the right of course is limited, so as in reality to amount to little more than a servitude; but there is no over-lord, the land is not the land of another, but the land of the community as a body.

COMMON, TENANCY IN: estate (q.v.) or a right in property accruing to two or more persons; the nature of it is, that each has a distinct right to his own share, though no division has yet been made. But the common owners may agree to a partition, or one of them may, in equity, compel a partition. If the estate is one which passes by inheritance, the heir of each owner takes his share, and there is no benefit of survivorship. A tenancy in C. may be created either by a conveyance in express words, or by the parties obtaining their titles at different times, or at the same time from different parties. But if the title accrues by descent from the same ancestor, even though at different times, it is a tenancy in coparcenary (q.v.).

COMMON BENCH—COMMON LAW.

COMMON BENCH: see **BENCH** and **COMMON LAW, COURTS OF**.

COMMON CHORD: see **CHORD**.

COMMON COUNCIL: in the United States, the legislative part of the government of an incorporated city. The members, called aldermen, are elected for specific terms in the wards or districts into which the city is divided, choose their own presiding officer, adopt their own rules for business, and provide for all necessary committees. They are independent of the mayor or other municipal officer, and in some cities are invested by law with certain magistratic powers, such as the right to perform the marriage ceremony, to hear and determine minor complaints, and to commit to prison for examination or trial. In the absence of the mayor, the pres. of the C. C., or the board of aldermen as called in some places, becomes the chief executive of the city. An indictment or complaint against, or a petition to, a city is addressed to the mayor and C. C. As a rule, members of a C. C. serve gratuitously, though some cities pay them annual salaries. See **ALDERMAN**.

COMMON COUNTS, in Law: short formal statements of the cause of action made in a declaration (q.v.).

COMMON DEBTOR: see **DEBTOR AND CREDITOR**.

COMMON FORMS: ordinary clauses used in writs and deeds.

COMMON GOOD: see **CORPORATION**.

COMMON HOUSE, or **COMMON ROOM:** an apartment in a monastery in which a fire was constantly kept burning for the use of the monks, who frequently were allowed no fire anywhere else. The C. H. was presided over by a monk, called the master. It was the prototype of the common rooms in the colleges and halls of the English universities.

COMMON LAW, in England: properly the ancient consuetudinary law of England. Both the term and that for which it stands have, in all essentials, passed by inheritance to the United States, with only some changes in administrative forms. It is the law of custom, recognized principle, or ancient usage, rather than of statute or of equity strictly interpreted. It applies especially to such matters in the government or the security of persons and property as are not covered by positive enactment.

The C. L. is therefore distinguished from the statute law, and from equity. It is wholly overruled by the statute law. In England, 1875, Nov. 2, the C. L. courts were merged in the supreme court of judicature by the act of 1873 (see **COMMON LAW, COURTS OF**) with a view to incorporate equity also, when the two systems conflicted. Accordingly, the old relation between law and equity subsists, and the former maintains its force in spite of any discordant rules of equity, which can therefore now take effect through the intervention of a court by which the C. L. is in each particular case corrected or superseded. For an enunciation of cases in which this result is shown, see **EQUITY**.

COMMON LAW.

The C. L. is, in one sense, an unwritten law. Its rules have been handed down by tradition, sometimes in complete and definite shape, such as the law of primogeniture, the jurisdiction of the courts, etc.; sometimes as a mere spirit or tendency, according to which, in novel cases, as they may arise, the law is to be expounded. Thus, the law-merchant is chiefly part of the C. L., though only some of its rules are of real antiquity, and the greater portion of them were developed no later than the last century. Therefore, in such cases, the C. L., though accounted traditional, is expanded by the judges who declare it, who enounce new rules suited to new combinations of circumstances, and merely bearing an analogy to what the ancient C. L. had established in cases which fell within its purview. It is therefore not wonderful that there should frequently be dispute as to what the C. L. is, and that different courts should occasionally give different decisions upon such questions.

As the C. L. has never been formally enacted, nor has yet been reduced to a regular code, it is to be sought for in the treatises of institutional writers, and in the decisions of the courts of law. These last are of the highest authority, and where they are consistent, they are taken as irrevocably establishing the law. But being declaratory merely, and not imperative, a single judgment of a court is not held conclusive upon courts of equal jurisdiction, though it is commonly accepted as binding by inferior courts. A court may even depart from its own decision, if it shall come to be of opinion that the law has before been incorrectly stated. But this principle perhaps undergoes an exception in the British house of lords, which being the highest court of all, it is laid down by some of the law peers that its judgments have the force of statute, and that the rules that it has once sanctioned can be altered only by statute. This point has long been regarded as settled; and it is almost the only secure theory on which a court of supreme jurisdiction, like the house of lords, can continue to exercise its functions.

The C. L. is applicable to the whole realm, but it is part of its principles, that in particular circumstances it may recognize rules which are not of universal application; thus, in certain courts, it adopts as its own the provisions of codes which it entirely rejects in other courts. In Britain, the civil and canon law are in some of their rules recognized as part of the C. L. in the maritime and ecclesiastical courts, but they are of no authority otherwise in the courts by which the main branches of the C. L. are administered. So also, in particular localities, customs exist which the C. L. sanctions, although they may be at variance with its general provisions. Such are the rules regarding succession which prevail in Kent, England, under the name of Gavelkind (q.v.), and in certain towns under the name of Borough English (q.v.). But customs of much more circumscribed operation are, when proved, equally accepted by the C. L. as part of itself within the limits in which it prevails; for the C. L. deems it not inconsistent to adopt a contrary rule

COMMON LAW.

to its own, if clear and uniform and confined to one locality. In order to entitle a custom to the force of law, it must be of such endurance 'whereof the memory of man runneth not to the contrary.' The period thus indicated is more precisely defined as extending to the commencement of the reign of Richard I. By this is meant, however, not that the custom must be proved to have been in perpetual vigor since that remote epoch, but that proof of its non-existence within that period will invalidate it. If no such proof is adduced, the custom will be established by the evidence of experienced living witnesses, or by such documentary evidence as is inconsistent with any other assumption.

COMMON LAW, COURTS OF: These are generally divided into superior and inferior. In England, the superior having jurisdiction over all England, and over common law rights of every description—sit at Westminster, and hence are often called the courts at Westminster. They had the names of the court of queen's bench, the court of common pleas or of common bench, and the court of exchequer. These all are offshoots of the great court, the *aula regia* of the early Norman kings, which, under the presidency of the chief-justiciar, and composed of the great officers of state and of the household, of the principal nobility, and of the justices learned in the law, attended the king's person wherever he went, and formed the sole superior court of the kingdom. But the inconvenience attending so transitory a judicature led to the demand, conceded in Magna Charta, c. 12, that *communia placita*, common pleas, should be held in a fixed place; hence arose the establishment of the court of that name. Afterward, under Edward I., the office of chief-justiciar was abolished, and the judicial functions of the *aula regia* partitioned among the court of chancery and the three courts of C. L. above named. In 1873, the Judicature Act, 36 and 37 Vict. c. 66, was passed, which rearranged all the superior courts in England, consolidating them into one supreme court of judicature, but having five divisions called the high court of justice. Three of these divisions were called the queen's bench division, the common pleas division, and the exchequer division, respectively. The kind of business dealt with in each division was substantially the same as under the previous arrangements, the chief difference being the new names of the courts and the principle now common to them all, that thereafter they should administer justice without distinction as to its being theretofore known as common law or equity. In 1881, it was further resolved that the offices of chief-justice of common pleas and of chief-baron of exchequer should be abolished, and the three common law divisions consolidated. The common pleas and exchequer have accordingly disappeared from the list of divisions of the high court of justice; and queen's bench, presided over by the lord chief-justice of England, has now not four but fourteen puisne justices. The former distinctions existing in the jurisdiction of the courts may still be briefly indicated under the head of each court.

COMMON LODGING-HOUSES—COMMON PLEAS.

The inferior courts in England, anciently numerous, but now nearly all formally abolished, are now, excepting the modern county court (q.v.), matter of interest to the antiquary.

The *court baron* was a court composed of the tenants of each lord of a manor, subject to review by the court at Westminster. See COPYHOLDS.

A few *borough courts* still exist, and are held under the presidency of the recorder (q.v.). From them a writ of error lies to the superior courts. The *lord mayor's court*, and the *city court*, in the city of London, have considerable business. The *court of hustings* in London is practically obsolete. The *court of the Cinque Ports* is held before the mayor and jurats of each port, from which error lies to the lord warden of the Cinque Ports court at Shepway, and thence to the queen's bench. The *stannary courts* in Cornwall and Devonshire are also still in use, and exclude, as to the tin-workers, the jurisdiction of all other courts, except in pleas of land, life, or member. They are held before the vice-warden of the stannaries, and appeal lies only to the warden, assisted by two of the judges; and thence to the high court. There are in some counties also *barmote courts*, for regulating questions relating to the mines. The courts of the chancellors of the universities of Oxford and Cambridge have also exclusive jurisdiction (except as regards freeholds), where the defendant is resident in the town, and a scholar or privileged member (if the university is a party).

The court of common pleas in Lancaster, and the court of pleas in Durham, have jurisdiction in all personal actions, and now form part of the high court of justice.

See JUDICIARY IN THE UNITED STATES.

COMMON LODGING-HOUSES: see LODGINGS.

COMMON PLEAS: see COMMON LAW, COURTS OF JUDICIARY IN THE UNITED STATES.

COMMON PRAYER.

COMMON PRAYER, Book of: the forms of public worship and administration of the sacraments and other rites and ceremonies according to the use of the United Church of England and Ireland. With some changes of no great extent, it is authoritative also in the Prot. Episc. Church in the United States. It is, for the most part, a translation of such portions of the services of the ancient Catholic Church as were considered by the Reformers free from all objection. Before the Reformation, the liturgy was in Latin, and the form generally adopted in the south of England was that after the use of Sarum, which was based on the Anglo-Saxon and Norman liturgies, and set forth by Osmund, Bp. of Sarum, near Salisbury, 1087. The first steps toward its reformation were taken by Henry VIII., the main objects being the abolition of what was superstitious, and the translation of the services into the vulgar tongue. In 1540, a committee of bishops and divines was appointed for the purpose, and what was done by them was revised by convocation in 1543. In 1545, the *King's Primer* came forth, containing, among other things, the Lord's Prayer, Creed, Ten Commandments, 'Venite,' 'Te Deum,' Litany, and other hymns and collects in English, several of which were in the same version as at present used. It was, however, in the reign of Edward VI. that the most important steps were taken for framing a new service-book. In opposition to the practice introduced by the Rom. Cath. Church, an act of parliament was passed, ordering the communion to be administered to the laity in both kinds, and a formulary was drawn up for this purpose, and used at the end of the Latin mass. In the following year, a complete service-book was drawn up, including offices not only for Sundays and holidays, but for the administering of baptism and confirmation, for matrimony, the burial of the dead, and other occasions, together with the above-mentioned office for the communion considerably altered. This book was compiled by Cranmer and Ridley, assisted by eleven other divines; it was revised by convocation, and confirmed by king and parliament, and published 1549, and is known as the FIRST PRAYER-BOOK of Edward VI. It differed from the one now in use by beginning the daily service with the Lord's Prayer, by retaining prayers for the dead, and directing the use of the sign of the cross in confirmation and visitation services, and the anointing of the sick. It was drawn up with great prudence, retaining as much, and altering as little as possible of what had been familiar to the people. In 1550, the ordination service was added, taken principally from that used by the Rom. Cath. Church, but omitting certain ceremonies, and adding most of the questions proposed to the candidates. This service differed but little from that now in use, as authorized, 1662.

In 1551, objections, as might be expected, were made from various quarters to this *first* prayer-book, and Cranmer proposed to revise it, and called to his assistance two distinguished foreign reformers—Martin Bucer, and Peter Martyr. In this revision, some of the principal alterations

COMMON PRAYER.

—in which is traceable the influence which Bucer and Martyr had brought from Geneva and Strasbourg—were the addition of the opening sentences, the exhortation, confession, and absolution at the beginning of the service, the disuse of oil in baptism, of unction of the sick, and of prayers for the dead. The book thus altered was confirmed by act of parliament 1552, and is called the **SECOND PRAYER-BOOK** of Edward VI.

In the reign of Queen Mary, the acts of 1549 and 1552 were repealed, and therefore, at the accession of Elizabeth, it was necessary to reverse this repeal; and this afforded a fresh opportunity of revising the whole. The question then arose (1560) as to which of King Edward's two books should be adopted. The queen herself would probably have preferred the first, as containing many of the old ceremonies to which she was attached, but the second was chosen, and a few unimportant changes introduced. This may be called the **THIRD COMMON PRAYER-BOOK**. No alteration was made by it as to the use of church ornaments and vestments, which were directed by the act of uniformity, 1559, to be retained as they were left by the authority of parliament in the second year of Edward VI.

On the accession of James I., after the Hampton Court Conference, the book was again revised; and a few judicious changes made, e.g., some forms of thanksgiving were added for special occasions, and the explanation of the sacraments by Dr. Overall after the catechism; midwives and laymen were also prohibited from baptizing. In this state, the C. P. was left until the Restoration, when, at the request of the Presbyterians, the king consented to a fresh revision, 1661. Twelve bishops were appointed to confer with an equal number of Presbyterian divines, each side having nine coadjutors. They were to consider the principal objections raised against the liturgy as it then stood. This was called the Savoy Conference. The Presbyterians brought forward all the objections that had been made by the Puritans for the last century, adding new ones of their own. Baxter went so far as to say that it was incapable of amendment, and was bold enough to offer an entirely new liturgy of his own composition to be received in the place of the authorized one. It is hardly necessary to add, that the conference broke up without anything being done, except that the bishops proposed a few alterations, which were adopted by convocation 1662, and confirmed by act of parliament. Among these changes, the new authorized version of the Scriptures was adopted, except in the Psalms (which follow the version of Coverdale's Bible, and had become familiar to the people), and in the commandments and the sentences at the communion service; the general thanksgiving was added, and the form of prayer to be used at sea. It is proper to observe that the four forms of prayer known as the *State Services*—viz., for Gunpowder Treason, Nov. 5; for King Charles's Martyrdom, Jan. 30; for the Restoration, May 29; and the King's Accession; were never properly a part of the C. P., but were annexed to it by order of the king in council at the beginning of

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every reign. Upon an address of both houses of parliament, in conformity with the wish of the clergy, an order in council was given by Queen Victoria for discontinuing the first three. There have been four acts of uniformity—viz., in 1548 and 1552, both of which were repealed by that of Elizabeth 1559; and the last in the 14th year of Charles II., 1662, which left that of Elizabeth unrepealed. In the Great Rebellion 1643, the Long Parliament prohibited the use of the common prayer-book. At the Revolution 1688, no change was introduced into the prayer-book; for although a commission was appointed for the purpose, the second downfall of Episcopacy in Scotland 1689, caused such alarm in the English Church that the matter was dropped.

In Ireland, 1551, the first prayer-book of Edward was introduced by the king's authority, after some opposition; and the same prayer-book continued to be used on both sides of the channel till the Irish branch of the United Church was disestablished. In 1875, the General Synod of the Church of Ireland adopted a revision of the C. P., but without essential alteration. In Scotland, which had as yet no settled liturgy, Abp. Laud attempted to introduce the English prayer-book, but with alterations in the communion service which were likely to be very offensive to a people so hostile to the Church of Rome. This attempt was followed by riots, and ultimately led to the abolition of the Scotch Episcopate and to the Solemn League and Covenant. The English C. P. is now used in most of the Episcopal churches in Scotland, but in some a liturgy resembling that of Laud, but framed by the Nonjurors more on the model of the Eastern liturgies, is used in the communion service. In the United States, also, the English C. P. is used with some slight changes. Recently some modifications considerable in number, but amounting to no essential change, have been proposed by a committee duly appointed for that purpose in the Gen. Convention of the Prot. Episc. Church in the United States, and a portion of them have come into use. See LITURGY.

COMMON SCHOOLS: see **EDUCATION.**

COMMON SENSE.

COMMON SENSE, THE PHILOSOPHY OF: a system of mental philosophy, based on an appeal to consciousness, or intuitive principles; set forth by Thomas Reid (q.v.) and other Scotch metaphysicians. It was intended as an antidote to the skeptical philosophy of Hume. There are certain beliefs that have been current among men in all ages, which, when canvassed by one set of philosophers, have been declared groundless illusions. Of these, the most remarkable instance is the belief in an external, material world, independent of any mind to perceive it. The doctrine put forth by Bishop Berkeley (see **BERKELEY, GEORGE**) as opposed to the common opinion, was, that 'the whole universe subsists, and can only subsist, within such a sentient, invisible, and conscious thing as the mind is known to be. In this way, each human mind must have within it a separate universe of its own, but so exactly the same in all minds, that every object of sense, and every movement of every object that is to be found in the universe of one mind, is to be found also in the universe that is within the other mind; the general effect of all which conditions is much the same as that which would be produced if several people were all dreaming, exactly at the same time, exactly the same dream.' 'The result of Berkeley's inquiry,' says Dr. Reid, 'was a serious conviction that there is no such thing as a material world—nothing in nature but spirits and ideas; and that the belief of material substances, and of abstract ideas, are the chief causes of all our errors in philosophy, and of all infidelity and heresy in religion. His arguments are founded upon the principles which were formerly laid down by Des Cartes, Malebranche, and Locke, and which have been very generally received. And the opinion of the ablest judges seems to be, that they neither have been nor can be confuted; and that he hath proved, by unanswerable arguments, what no man in his senses can believe. Hume proceeds upon the same principles, but carries them to their full length; and as the bishop undid the whole material world, this author, upon the same grounds, undoes the world of spirits, and leaves nothing in nature but ideas and impressions, without any subject on which they may be impressed.'—*Inquiry into the Human Mind*, c. 1, s. 5.

A dead-lock in philosophy seemed to have resulted from those doctrines of Berkeley and Hume; and the solution offered by Reid consisted in setting up C. S. as an arbiter from which there could be no appeal; that is to say, the universally admitted impressions of mankind were to be taken as corresponding to the fact of things without any further scrutiny. Reid's philosophy of C. S. has thus found a place in the thinking-world; and it is only the same view otherwise expressed, when it is declared by other philosophers that the deliverance of consciousness must be presumed true. Sir W. Hamilton, in the most elaborate vindication of the C. S. philosophy that has ever been produced (ed. of Reid's works), dwells largely upon this last view of the subject. The following extract is a specimen of his **mode of reasoning**: 'When, for example,

consciousness assures us that, in perception, we are immediately cognizant of an external and extended *non-ego* (not-self); or that, in remembrance, through the imagination, of which we are immediately cognizant, we obtain a mediate knowledge of a real past: how shall we repel the doubt—in the former case, that what is given as the extended reality itself is not merely a representation of matter by mind; in the latter, that what is given as a mediate knowledge of the past, is not a mere present phantasm, containing an illusive reference to a real past? We can do this only in one way. The legitimacy of such gratuitous doubt necessarily supposes that the deliverance of consciousness *is not to be presumed true*. If, therefore, it can be shown, on the one hand, that the deliverances of consciousness must philosophically be accepted *until* their certain or probable falsehood has been positively evinced; and if, on the other hand, it cannot be shown that any attempt to discredit the veracity of consciousness has ever yet succeeded; it follows that, as philosophy now stands, the testimony of consciousness must be viewed as high above suspicion, and its declarations entitled to demand prompt and unconditional assent.

‘In the first place, it cannot but be acknowledged that the veracity of consciousness must at least, in the first instance, be conceded. Nature is not gratuitously to be assumed to work, not only in vain, but in counteraction of herself.’ ‘But in the second place, though the veracity of the primary convictions of consciousness must, in the outset, be admitted, it still remains competent to lead a proof that they are undeserving of credit. But how is this to be done? As the ultimate grounds of knowledge, these convictions cannot be redargued from any higher knowledge; and as original beliefs, they are paramount in certainty to every derivative assurance.’ ‘It will argue nothing against the trustworthiness of consciousness, that all or any of its deliverances are inexplicable—are incomprehensible. To make the comprehensibility of a datum of consciousness the criterion of its truth, would be indeed the climax of absurdity.’ (P. 745.)

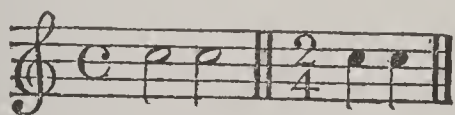
The conclusiveness of this reasoning is disputed by many, who object that consciousness (q.v.) is a very wide word, comprising indeed everything that we call mind; and it is proverbially unsafe to argue in generalities. Suppose, it is argued, we were to substitute ‘memory’ in the above reasonings, and to maintain that the veracity of each one’s memory was beyond all question or dispute, it would be apparent at once how the case really stands. In one meaning, and in one set of circumstances, memory is sure, or even nearly infallible—that is, when we record an observation the moment after we have made it. For a short interval of time, a simple fact, or a brief statement, may be recollected with entire certainty. On the other hand, the lapse of days, months, or years, and the complicacy of the fact, not to mention the bias of the feelings, are known to cause great uncertainty in our recollection, and in such circumstances we do not implicitly rely on it. In a word,

COMMON TIME—COMMUNE.

experience is the criterion of how far the memory is to be trusted. Possibly, therefore, the same thing may be found true of the larger fact named consciousness.

The truths of C. S., or consciousness, are such as these: the laws of Identity, Contradiction, and Excluded Middle (see IDENTITY); the axioms of Mathematics; the law of Causality (see CAUSE); the doctrine of an innate moral sense (see ETHICS); the doctrine of man's Moral Liberty (see FREE WILL); the existence of an external world independent of every percipient mind. Such truths are designated by a variety of other names, with a view to contrast them with what we learn in the course of our education and contact with the world; they are termed Intuitions, Intuitive Cognitions, Instincts, Feelings, Beliefs, Principles, Ultimate or Primordial Elements, Truths *a priori*, Transcendental Cognitions, Truths of the Reason, etc.—*Hamilton's Dissertations*, note A. The philosophy of C. S., as promulgated by Reid, bore reference especially to the denial by Berkeley of the received view of the material world: see PERCEPTION: also IDEA: NOMINALISM.

COMMON TIME, in Music: that species of measure which contains two minims or two crotchets in a bar. It is marked thus:



COMMOTION, n. *kõm-mõ'shũn* [F. *commotion*—from L. *commotiōnẽm*, violent motion—from *con*, *motus*, moved: It. *commovere*]: violent motion; agitation; disturbance; tumult of people; confused excitement; disorder of mind.—SYN. of 'commotion': disturbance; excitement; agitation; perturbation; violence; tumult; disorder; heat.

COMMUNE, n. *kõm'mũn* [F. *commune*—from *commun*, common (see COMMON)]: in *France*, the name for a district of country; a parish. COMMUNAL, ã. *kõm-mu'nãl*, pertaining to a commune.

COMMUNE, v. *kõm-mũn'* [OF. *communier*, to communicate—from L. *communĩcãrẽ*, to impart, to share together—from *communis*, common: It. *communicare*; F. *communiquer*, to communicate (see COMMON)]: to converse with familiarly and intimately; to talk with particularly; to confer; to have intercourse with one's self in meditation. COMMUNING, imp. COMMUNED', pp. -*mũnd'*. COMMUNION, n. -*mũn'yũn* [F. *communion*—from L. *communĩōnem*, mutual participation]: familiar intercourse between two or more persons; intimate intercourse or union; concord; a body of Christians who have the same tenets of belief and forms of worship; the celebration of the Lord's Supper (q.v.), or the partaking of it.—SYN. of 'communion': fellowship; converse; intercourse; concord; agreement; unity.

COMMUNE, *kõm'mũn*: administrative division of France within a department; the smallest territory having a chief magistrate and a deliberative assembly. In some

COMMUNE DE PARIS—COMMUNION SERVICE.

places several towns or villages are embraced in one C., in others there are several communes in one city. Where the population of a C. exceeds 3,000, the *maire*, or chief officer, is appointed by the general govt.; in other cases the *maire* is appointed by the prefect of the department. The *maire* of a C. may be suspended by a prefect, but can be removed only by the general govt. Members of the assembly are termed councilors, and are elected by the people for a term of five years; their official actions are subject to revision and amendment by the prefect. A *maire* may appoint an *adjoint*, who, even though not a member of the *conseil municipal*, may preside over its sessions, and represent him as the agent of the prefect and the general govt. during his temporary absence. See COMMUNISM. for the social theory which some radical reformers aim to develop from the commune as a political fact.

COMMUNE DE PARIS: political organization of socialists and workingmen, who rose in violent revolt against the French government, 1871, Mar. 17, after the evacuation of Paris by the German army: see PARIS.

COMMUNICATE, v. *kōm-mū'nī-kāt* [L. *commūnicātūs*, imparted, shared together (see COMMON and COMMUNE 2)] to impart of our own knowledge to others; to give to another; to reveal; to give, as information, etc.: to partake of the Lord's Supper (q.v.); to have a passage or entrance from one place to another; to have intercourse by words, etc. COMMUNICATING, imp. COMMUNICATED, pp. COMMUNICANT, n. *-nī-kānt*, one who partakes of the sacrament of the Lord's Supper. COMMUNICATIO IDIOMATUM, a theory concerning the person of Christ, that he in his own person has all the attributes of the divine and human natures jointly—the two natures being inseparable. COMMUNICATOR, n. *-tēr*, one who. COMMUNICATION, n. *-kā-shūn*, the act of imparting or making known; intercourse by words, letters, or messages; correspondence; means of passing from one place to another. COMMUNICATIVE, a. *-kā'tiv*, disposed to impart or reveal; unreserved. COMMUNICATIVENESS, n. COMMUNICATORY, a. *-kā'tēr-ī*, imparting knowledge. COMMUNICABLE, a. *-kā-bl*, capable of being imparted from one to another. COMMUNICABLY, ad. *-blī*. COMMUNICABLENESS, n. COMMUNICABILITY, n. *-bīl'ī-tī*.—SYN. of 'communicate': impart; confer; bestow; disclose; reveal;—of 'communication': intercourse; commerce; correspondence; conference; dealing; connection; communion.

COMMUNION, in Ecclesiastical Language: that relation of fellowship, involving mutual claims and duties, in which those stand who are united by their Christian faith and confession in one religious body or church. To exclude from this relation and its involved rights is to *excommunicate*. The most visible symbol of this fellowship being the partaking together of the Lord's Supper, that rite is often called the Communion: see LORD'S SUPPER.

COMMUNION SERVICE: see COMMON PRAYER, BOOK OF: LITURGY: LORD'S SUPPER.

COMMUNISM.

COMMUNISM, n. *kŏm'mū-nīzm* [F. *commun*, common (see **COMMON**)]: a state of things in which no separate rights of property exist, all property and substance being held in common; socialism. **COM'MUNIST**, n. one who advocates that all things should be common property. **COM'MUNISTIC**, a. *-nīs'tik*, pertaining to communism.—Communism designates one class of the arrangements by which certain theorists have proposed to dispense with those laws of social and political economy which are supposed to keep society together through the influence of the domestic affections and the spirit of competition, and to substitute in their stead a set of artificial rules for the government of human society. The word Socialist has generally been applied to those who only propose to interfere with labor by abolishing competition and wages, leaving men to work under the influence of public spirit, and making an equal division of the produce: see **SOCIALISM**. The term Communist, on the other hand, has been applied to those who go further, and propose to abolish the relation of husband and wife, with the system of domestic government founded on the parental authority. While Louis Blanc may be considered the head of the Socialists—though his ultimate aim was work according to capacity, and payment according to wants—the representatives of the Communists are Robert Owen, St. Simon, Fourier, Proudhon, and Enfantin.

Although communism is usually considered an especially French fallacy, the first consistent practical teacher of it was an Englishman, Robert Owen. He published, 1813, *A New View of Society, or Essays on the Principle of the Formation of the Human Character and the Application of the Principle to Practice*—in which he printed in large capital letters, as the key-note of his system, the following announcement: 'That any character—from the best to the worst, from the most ignorant to the most enlightened—may be given to any community, even to the world at large, by applying certain means, which are to a great extent at the command and under the control, or easily made so, of those who possess the government of nations.' No alarm was felt either at such a text or the comments made on it; nor did the world see what the author meant by the hint that there were special artificial means for improving the breed, as it were, of mankind, until he struck at the root of the domestic organization, by such announcements as the following: 'The affections of parents for their own children are too strong for their judgments ever to do justice to themselves, their children, or the public in the education of their own offspring—even if private families possessed the machinery (which they never do) to well-manufacture character from birth.' He formed an organization, too complex to be here detailed, by which families were to be subjected to a discipline which, that it might be perfectly uniform, should be carried out in parallelograms. Anticipating the results, he said: 'These new associations can scarcely be formed before it will be discovered that by the most simple and easy regulations all the natural wants of human nature may be abundantly supplied; and

the principle of selfishness—in the sense in which that term is here used—will cease to exist, for want of an adequate motive to produce it.’ He attested his reliance on the efficacy of his invention by sinking his own fortune in an attempt to build a parallelogram. It was commenced in 1825, at Orbiston, Lanarkshire; but he did not meet with sufficient co-operation, and as his own funds sufficed only to build one corner of the parallelogram, it was impossible to give effect to arrangements fitted only for a completed edifice in that geometrical form. A considerable number of people—about 200, it is said—lived for some time in the building, little to their own advantage or that of the neighbors, who were naturally prejudiced against them, and probably exaggerated their irregularities; the building was soon deserted, and afterward was totally obliterated. Owen had another opportunity of trying his parallelogram organization in 1843, when ‘Harmony Hall’ was established in Hampshire by the zealous efforts of his followers, who formed a sort of sect in England. Still his theory had, as he deemed it, anything but fair play, since so far did his disciples depart from that absolute undeviating conformity to the ‘rational’ system, as laid down by him, that they got tired of his incessant reiteration of it, and deposed him from his office of ‘president of the congress.’

Other attempts to realize C. were not more fortunate. Fourier’s system was to be realized in ‘phalanxes,’ each containing 400 families, or about 1,800 persons. A sum of about \$2,500,000 is said to have been spent in the establishment of a ‘phalanstery’ at Rambouillet. It failed, and the founder of the system, like Owen, attributed the failure to the scheme being but imperfectly developed. The St Simonians established a college or corporation at Menilmontant, with a ‘supreme father’ at their head. The leaders were brought to trial by the government of Louis-Philippe, on a charge of undermining morality and religion. They were subjected to imprisonment, and were unable to bear up against contumely: see PERFECTIONISTS: SHAKERS: also ATELIERS NATIONAUX: COMPETITION: POLITICAL ECONOMY.

Communism, in the sense of having all things in common, is not to be confounded with the idea for which the communists of Paris fought in 1871 (see PARIS); that idea was political rather than social, although the same persons may often hold both doctrines. *Commune* is the official designation of the lowest administrative division in France, corresponding in rural districts to American township, and in regard to cities being equivalent to municipality. The communist doctrine is that every such commune, or at least every important city commune like Paris, Marseille, etc., should be a kind of independent state in itself, and France merely a federation of such states. This idea has taken deep hold of the extreme democrats, not only among the town populations of France, but also in Spain, and, to a less extent, in other parts of the continent. It was the very opposite idea for which the great

COMMUNITY—COMO.

war against secession in the United States was fought and won.

COMMUNITY, *kõm-mũ'nĩ-tĩ* [L. *commūnis*, common, ordinary (see **COMMON**)]: a body of persons having common rights and privileges, or common interests—generally limited in its application to the inhabitants of a city, town, or district, or to a society or profession; the whole body of the people; the commonwealth; body politic.

COMMUTATION OF TITHES: see **TITHES**.

COMMUTE, v. *kõm-mũt'* [L. *commūtāre*, to alter wholly—from *con*, together; *mũto*, I change: It. *commutare*]: to put one thing in the place of another; to mitigate; to change a penalty or punishment to one less severe. **COMMUTING**, imp. **COMMUTED**, pp. **COMMUTATION**, n. *-tũ'shũn*, the giving of one thing for another; the substitution of a less penalty or punishment for a greater. **COMMUTABLE**, a. *-mũ'tũ-bl*, that may be exchanged. **COMMUTABILITY**, n. *-bĩ'ĩ-tĩ*, the capability of being exchanged one for another. **COMMUTATIVE**, a. *-tũ-tĩv*, relating to exchange. **COMMUTATIVELY**, ad. *-lĩ*. **COMMUTATOR**, n. *kõm'mũ-tũ'ter*, an instrument for breaking or changing the direction of a galvanic current. **COMMUTUAL**, a. *kõm-mũ'tũ-ũl*, in *OE.*, mutual.

COMNENUS, *kõm-ně'nus*: name of a family, originally Italian, of which many members occupied the throne of the Byzantine empire, 1057–1204, and that of Trebizond, 1204–1461: see **BYZANTINE EMPIRE**: **TREBIZOND**.—**ANNA COMNENA** (q.v.), who lived in the first half of the 12th c., is of both historic and literary celebrity.—**DAVID C.**, last representative of the imperial race in Trebizond, was put to death at Adrianople, 1462, with all his family, by command of Mohammed II. The attempt which has been made to trace the descent of the Bonaparte family from a branch of the Comneni settled in Corsica lacks evidence.

COMO, *kõ'mõ*: province of Italy, in Lombardy; bounded n. by Switzerland, w. by Novaro, s. by Milan, e. by Bérgamo and Sondrio; 1,049 sq. m. The cap. is Como. It is in the most picturesque part of Italy, embraces the celebrated Lake C. and portions of Lakes Lugano and Maggiore, is extremely fertile, rich in deposits of iron, copper, and lead, and white marble, has a large number of manufactories, and is one of the great centres of the silk industry in Europe. Pop. (1880) 518,372; (1901) 580,214.

CO'MO: city of Lombardy, n. Italy, beautifully situated at the s.w. extremity of the Lake of C. It lies in a valley, surrounded by hills, clad with luxuriant gardens, olive-plantations, and orange-groves, with here and there an old ruin cropping out. The city is surrounded by old walls flanked with towers, the gateways by which the walls are pierced being fine specimens of middle-age military architecture. Among the principal buildings of C. are the cathedral, built of marble, and containing some interesting pictures and monuments; the town-hall, also of marble, dating from the beginning of the 13th c.; and the

ports of \$100,000—\$150,000. Great Comoro, which has an active volcano, suffers from want of water. The people of Johanna find their principal employment in connection with ships calling for provisions. The trade of Comoro and Mohilla is of the same character, but these islands are not so much frequented by ships for the purpose of victualling. Total pop. of the isles, about 65,000.

COMOSE, a. *kō-mōs'* [L. *coma*, hair]: in *bot.*, furnished with hairs as the seeds of the willow; hairy.

COMPACT, *kōm-pākt'* [F. *compacte*, compact—from L. *compactus*, pressed, well-set—from *con*, *pactus*, driven in, agreed upon: It. *compatto*]: united and pressed closely together; firm; close; solid; dense; not diffuse: V. to press closely together; to join firmly; to make close. COMPACT'ING, imp. COMPACT'ED, pp.: ADJ. made firm and solid by pressing. COMPACT'ER, n. one who. COMPACT'ION, n. *-pāk'shūn*, the act of making an agreement. COMPACT'LY, ad. *-lī*. COMPACT'NESS, n. close union of parts; firmness; density. COMPACT'EDLY, ad. *-lī*. COMPACT'EDNESS, n. firmness; density. COMPACTURE, n. *kōm-pāk tūr*, a close union of parts; in *OE.*, manner in which anything is joined together; structure—SYN. of 'compact, a': close; firm; dense; solid; sententious; pithy; brief.

COMPACT, n. *kōm'pākt* [L. *compactum*, an agreement—from *con*, together; *pactus*, made a bargain, agreed upon]: a mutual contract; an agreement or treaty: ADJ. in *OE.*, forming a league with one. COMPACT', a. [L. *pactus*, composed, made]: in *OE.*, composed; made out of—see COMPACT 1.—SYN. of 'compact, n.': agreement; contract; covenant; bargain.

COMPAGINATION, *kōm-pāj'ī-nā'shūn* [L. *compaginatio*—from *compagino*, I join together; *compago*, a joining together]: a framing or joining together; frame-work.

COMPANABLE, a. *kūm'pā-nā-bl* [see COMPANION]: in *OE.*, fitted for company; fond of company. COMPANABLENESS, n. *-nā-bl-nēs*, the quality of being well fitted for company; also COMPANIABLE, a. *kōm-pān'ī-ā-bl*.

COMPANIES' CLAUSES CONSOLIDATION ACT: see RAILWAYS.

COMPANION, n. *kōm-pān'yūn* [F. *compagnie*, company—from *compagne*, a companion, the fem. of the OF. *compaign*—from mid. L. *compānīō*, a companion—from L. *con*, and *pānis*, bread: comp. Gael. *companach*, a companion]: one who lives and eats with another; one who goes with another habitually as a friend; an associate; a comrade. COMPAN'IONLESS, a. without a companion. COMPAN'IONSHIP, n. fellowship; company. COMPAN'IONABLE, a. *-ā-bl*, sociable; agreeable; having the capacity of being agreeable in company. COMPAN'IONABLY, ad. *-ā-blī*. COMPANY, n. *kūm'pā-nī*, a number of companions; a large or small number of persons met together; a party of persons assembled for social intercourse; fellowship; a number of persons united for the purposes of trade, etc. (see JOINT-STOCK COMPANY: PARTNERSHIP: GUILDS: LIVERY); &

COMPANION—COMPARE.

firm; the crew of a ship, with the officers, and all persons engaged on board and paid for specific duties—therefore excluding troops and passengers, but including naval officers (see CREW); a division of soldiers in a foot regiment under a captain: V. to associate one's self with; to keep company with. TO BEAR COMPANY, to go with; to attend. TO KEEP COMPANY WITH, to associate with; to go with as an intimate friend frequently or habitually.—SYN. of 'companion': associate; comrade; consort; partner; ally; coadjutor; mate; compeer; confederate; accomplice; colleague;—of 'company': assembly; band; troop; assemblage; society; circle; group; gang; crowd; crew; association; corporation; collection; meeting.

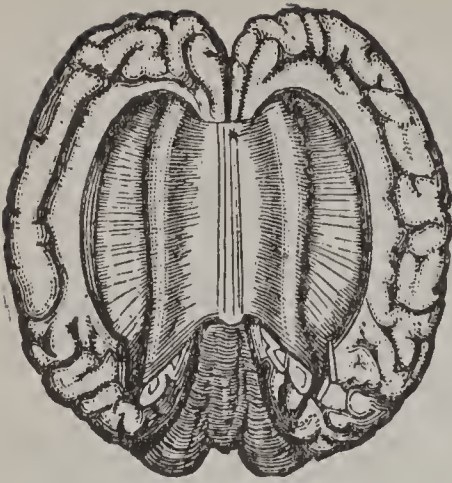
COMPANION, n. *kōm-pān'yŭn* [from COMPANION 1]: the wooden covering, hood, or pent-house on the deck of a merchant-ship forming the entrance to the cabin below. COMPANION-LADDER, the ladder or staircase leading from the 'companion' to the cabin below.

COMPANY: see under COMPANION 1.

COMPANY, in Military Organization: an aliquot part of a regiment or battalion. The companies in an infantry regiment are generally ten, or, if there are two battalions of infantry, each has this number of companies. The captains, lieutenants, and sub-lieutenants all are *C. officers*. The capt. is the chief of a C., and the lieut. and sub-lieut. or 2d lieut. are his subalterns or assistants. The C. is further separated into two *subdivisions*, of two sections each. In round numbers, in time of war, and without reference to special instances, a full C. may be considered to comprise about 100 men, a subdivision 50, and a section 25. Under the captain's superintendence, the lieut. commands the first and second sections, the 2d lieut. the third and fourth, with a sergeant to each section. Each C. has its own arm and accoutrement chests, and keeps its own books. Companies in a cavalry regiment are sometimes called *troops*; in the artillery they are sometimes called batteries. In the Brit. army the company is nearly the same as above; in the German army, a company comprises about 250 men, under a capt. who is a mounted officer, and a subalterns.

COMPARATEUR, *kōm-pār'a-tōr* [F.]: Prussian instrument for accurately ascertaining the length of measures after Bessel's mode. The micrometers are placed on a strong mahogany beam; and the slide, which carries the two measures to be compared, is so arranged that it moves them exactly behind one another in the micrometer line, and there retains them.

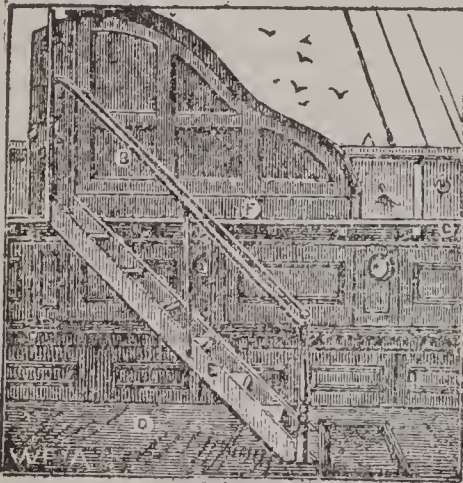
COMPARE, v. *kōm-pār'* [F. *comparer*, to compare—from L. *compārārē*, to couple things together for judgment—from *con*, *par*, equal, like: It. *comparare*]: to set or bring things together in order to ascertain wherein they agree and wherein they differ—the objects to be compared may be thought of or be actually present; to liken; to refer to as similar for the purpose of illustration; to inflect an adjective that more or less of the quality may be expressed; in *OE.*, to vie: N. comparison. COMPA'RING, imp. COM-



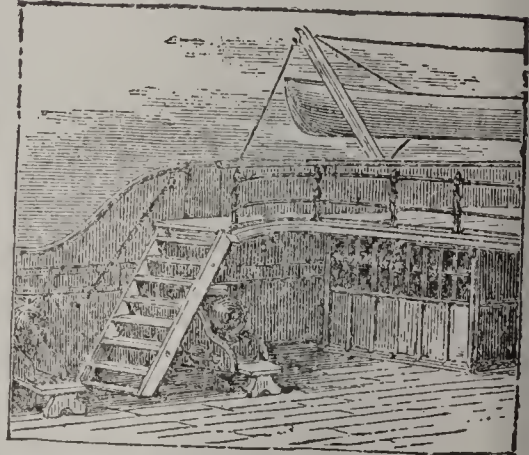
**Corpus Callosum, or Great Commis-
sure of Brain.**



Commode.



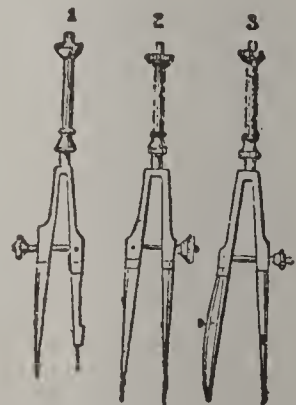
Companion-ladder.—A, Bulwark; B, Movable companion; C, Upper deck; E, Companion-ladder; F, Hatchway combing; D, Cabin below.



Companion-ladder, from model in Royal Naval College, Greenwich.



Comose: 1, Seed of Willow; 2, Seed of Milkweed.



Bow Compasses: 1, 2, for using as dividers; 3, with pen leg for describing circles.

COMPARISON—COMPARTMENT.

PARÉD', pp. -pär'd'. **COMPA'RER**, n. one who. **COMPARABLE**, a. kôm'pär-ä-bl [F.—L.]: that may be compared. **COM'PARABLY**, ad. -ä-blî. **COMPARATIVE**, a. kôm-pär'ä-tîv [L. *comparativus*, comparative]: not positive or absolute; estimated by comparison; having the power of comparing; in *gram.*, an adjective inflected, expressing more or less: N. in *OE.*, one given to making comparisons, or who makes himself another's equal. **COMPAR'ATIVELY**, ad. -lî, in a manner as estimated by comparison; not positively. **COMPAR'ISON**, n. -î-sôn, the act of comparing; the state of being compared; a consideration of the relations between persons or things in order to discover wherein they agree and wherein they differ; a simile; the inflection of an adjective to express more or less, as 'good. better, best.' **COMPARATES**, n. kôm'pär-räts, in *logic*, the two things or objects capable of being compared. **COMPARATIVE ANATOMY**, the study of the structures of two or more living creatures as compared with each other, to bring to light their resemblances or differences: see **ANATOMY**.

COMPAR'ISON, in Grammar: that which, as applied to adjectives (q.v.) and to adverbs (q.v.), marks the *degree* in which the quality expressed by the adjective or adverb is attributed to the object or action as compared with other objects or actions. There are three degrees of comparison. The *positive* indicates the quality generally, without comparison; the *comparative*, a higher degree of the quality than is attributed to other things; and the *superlative*, the highest degree that is attributed to any of the things under consideration. There are two ways of expressing these degrees. 1. By an inflection or change on the word; as, *hard, harder, hardest; happy, happier, happiest*: this mode prevails almost exclusively in Greek and Latin. 2. By an additional word, as *more happy, most happy*: this may be called logical C.; the other, grammatical. In French, with the exception of a few irregular adjectives, all adjectives follow the logical method. In English, the logical method is preferred in every case where the grammatical would produce a word difficult or harsh in the pronunciation. This is generally the case in English when the simple adjective is of more than one syllable; but it is not always so. Thus, *earnester, prudenter*, would make harsh combinations; not so *politer, discrèeter, happier*. The difference is, that in *earnester, prudenter*, the accent being on the first syllable, two unaccented syllables of discordant character are thrown together; in *politer, discrèeter*, the unaccented syllables are separated; and in *happier*, though they come together, they are of a kind readily to coalesce. Thus the laws of euphony—which mean, the ear and organs of speech consulting their own convenience—determine this point, as they do much else in language. In general, it is only adjectives of quality that admit of C.; and even adjectives of quality cannot be compared when the quality does not admit of degrees; as a *circular space*, a *gola ring*, a *universal wish*.

COMPARTMENT, n. kôm-pärt'mënt [F. *compartiment*

COMPASS.

—from OF. *compartir*, to divide—from L. *compartirē*, to divide into equal parts—from L. *con*, together; *partem*, a part or division]: a division or separate part of a general design; one of the divisions of a carriage, room, etc. COMPARTMENT-BULKHEADS, the same as water-tight bulkheads: see BULKHEADS.

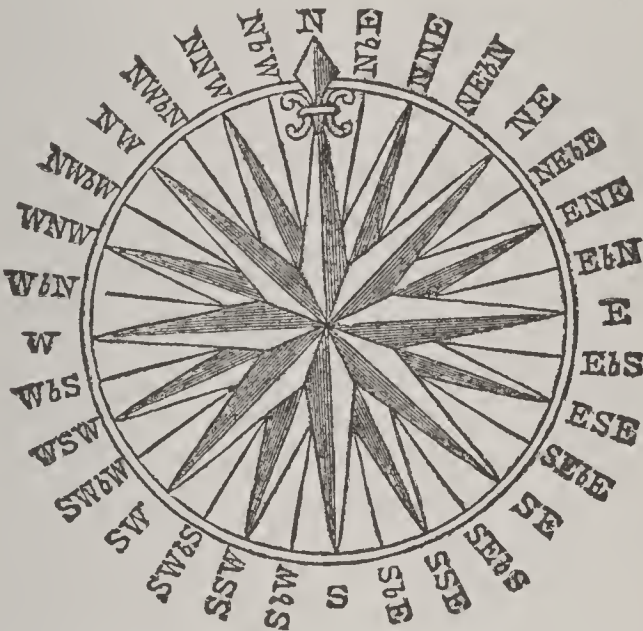
COMPASS, n. *kūm'pās* [F. *compas*, a compass, a round—from mid. L. *compassus*, a circle, a circuit—from L. *con*, *passus*, a step]: a round by walking; grasp; reach; space; extent; the limit or boundary of anything—applied to anything that can be measured or limited; a circuit; a circumference; the magnetic needle or mariner's compass; a guide; a direction: V. to go or walk round; to stretch round; to inclose; to encircle or surround; to grasp or embrace; to accomplish; to take measures preparatory to; to plot; to contrive; to besiege; in *OE.*, to obtain; to procure; to have in one's power. COM'PASSING, imp. COM'PASSED, pp. *-pāst*. COM'PASSES, n. plu. *-ēz*, an instrument with two legs for describing circles, etc. COM'PASSLESS, a. without a guide. COMPASS-BRICK, n. a brick with a curved surface, suitable for wells and other circular work. COM'PASS-PLANT, or Resin-Weed, a plant on the prairies of the far west whose leaves are doubtfully reported to point n. and s.; it abounds in resin. COMPASS-ROOF, a bent rafter or curb-roof. COMPASS-TIMBER, timber naturally crooked, curved, or arched; used for ships' frames, to secure deck-beams to the frames, etc. COMPASS-WINDOW, a circular, bay, or oriel window. To COMPASS AN OBJECT, to go about it or to contrive it. To FETCH A COMPASS, to depart from the right line; to advance indirectly.

COM'PASS, MARINER'S: instrument by which sailors are enabled to steer their course on the ocean out of sight of land, and when neither sun nor stars are visible. It is so called because its possible movement shows the whole circle of variations in direction between the points N., S., E., and W. The ancients, to whom it was unknown, seldom ventured to lose sight of the coast. The directive power of the magnet seems to have been unknown in Europe till late in the 12th c. It appears, however, on very good authority, that it was known in China, and throughout the East generally, at a very remote period. The Chinese annals indeed assign its discovery to B.C. 2634, when they say an instrument for indicating the south was constructed by the emperor Hou-ang-ti. They appear to have used it at first exclusively for guidance in travel by land. The earliest date at which we hear of their using it at sea is about A.D. 800. According to one account, a knowledge of the C. was brought to Europe by Marco Polo, on his return from his travels in Cathay. It was long contended that the C., as a nautical instrument, was invented by Flavio Gioja, native of Amalfi, about 1362; and that that part of the kingdom of Naples where he was born has a compass for its arms. For this there is no authority whatever, as the C. was well known as a nautical instrument before his time. It is probable, however, that Gioja may have made some

COMPASS.

improvement in the instrument or in the mode of suspending it. See *British Annual* for 1837.

The essential part of the C. is the magnetized needle, balanced freely upon a fine point: such a needle has the property of arranging itself in the meridian, one end always pointing to the north, and the other to the south (see **MAGNETISM**); yet not exactly, but with a deflection or *declination* (q.v.), which varies from time to time in magnitude, and may be toward the west or the east. The form of the needle is various, some needles being long, flat prisms, others lozenge-shaped. The centre of the needle is pierced, and a piece of agate generally inserted, with a conical hole sunk in it, to receive the fine point of the steel pin, so that the free motion may not be hindered by friction. The construction of the rest of the instrument depends upon its purpose. For a mariner's C., the needle is



fixed to a circular card, on which there is a star of 32 rays (see the figure), marking the 32 *points* of the heavens. The north point of the card is immediately over the north end of the needle, and the card moves with the needle. The cardinal points are marked with the letters N., S., E., W.; and the intermediate points, by an ingenious system of notation, the principle of which is readily seen by inspection of the figure. The points are often subdivided into quarters, which are thus marked: $N.\frac{1}{4}E.$ (read, 'north one-fourth east'); $N.\frac{1}{2}E.$; $N. \text{ by } E.\frac{3}{4}E.$, etc. Space between two points of the C., being $\frac{1}{32}$ of the circle, is equal to $11^{\circ} 15'$. The C. thus formed is inclosed in a cylindrical brass box; and in order that the C. may remain horizontal in all positions of the ship, the box is suspended by gimbals (q.v.) The whole is then placed in the binnacle (q.v.), in sight of the helmsman. Inside the box, in the direction of the ship's bow, is a vertical black line called the *lubber-line*, and the steersman must keep the point of the card which marks the prescribed course always in contact with the black line. Compasses differing in some respects

from the mariner's C. are used in surveying and land measuring; and they are often necessary in mining.

The great difficulty connected with the use of the mariner's C. arises from the disturbing influence of the magnetism of the ship. This difficulty pertains particularly to iron vessels, where the deviation of the needle is frequently so considerable as to render the compass almost useless. Various means of obviating this have been suggested; one of these is to place bars of soft iron or magnets in the immediate neighborhood of the binnacle, which, being so placed as to cause a contrary disturbance to that of the iron of the ship, leave the needle comparatively free. This is found to answer well in iron ships plying between N. American and British or other European continental ports; but where, as in the Australian passage, they change considerably their latitude, such an arrangement is worse than useless, as the magnetism of the vessel changing with the magnetic latitude, causes an ever-varying deviation of the needle. It has likewise been suggested to place a compass as a standard at the mast-head, where it would be comparatively free from the attraction of the vessel, by which the ship's course might be shaped, the ordinary C. being used merely to give immediate direction to the steersman. In the Brit. navy, this error is to a large extent obviated in the following way: A C. is placed so high above the deck as to clear the bulwarks, and allow the bearings of a distant object on shore or of a heavenly body to be taken while the ship's head makes a complete circuit. In this way, the deviation caused by the iron of the ship may be ascertained and registered for reference. The most perfect compass is that patented by Sir William Thomson, 1876.

COMPASS, SOLAR: instrument invented by William A. Burt (1792–1858), surveyor and judge in Michigan, to determine at any designated place a true line n. and s. from which other lines may be run in any direction. It has a latitude arc to be set at the latitude of the place of determination, a declination arc to be adjusted to the sun's declination at the time, and an hour arc to be set to the hour of the day. The needle-box has an arc of about 36° . The instrument is used by turning it so that the rays of the sun penetrate a lens and form a focus between cross-lines on a silver disk, the eye-sights being drawn to the true n. and s. lines. Local variations are indicated by the magnetic needle. This instrument has long been preferred to others in running important lines of survey, because local attraction has no appreciable effect upon it.

COMPASSES: instruments for transferring and marking off distances, or for drawing circles, ellipses, etc. The *common C.* or *dividers* are simply two rods or 'legs' joined together at one end by a pivot-joint, and pointed at the other; when used for drawing circles, the lower part of one of the legs is replaced by a pen or pencil. *Spring dividers* are much in use by workmen; in these, the legs are united by a strong steel spring, the action of which is to stretch them open; but half-way down, a screw passing

COMPASSION—COMPEER.

between the legs regulates the degree of opening. The value of these is in the permanency with which they retain any degree of opening given to them, pivot C. being liable to slip.

Beam C. consist of points sliding on a long bar, to which they may be clamped at any distance from each other. They are used for greater openings than pivot C. can safely span, and, when delicately made, for more accurate dividing: see GRADUATION.

Proportional C. have a point at each end of each leg, and the pivot somewhere on the length between the two ends, thus forming a double pair of C. opposite each other, head to head. If the pivot is midway between the points, the opening of each pair of points will be equal; if the distance from one pair of points be double that from the other, the openings will be as two to one; and so on for any ratio. When a single fixed proportion only is required, the pivot is fixed accordingly; but to adapt them for variable proportions, the pivot is a clamping screw, which moves in an elongated interval in the legs, and may be fixed at any point.

Triangular C. have three legs, so that the points of a triangle may be all transferred at once.

Calliper Compasses: see CALLIPERS.

COMPASSION, *n.* *kõm-păsh'ăn* [F. *compassion*, compassion—from L. *compassiōnem*, compassion—from *con*, *passus*, suffered]: sorrow excited by the distress or misfortunes of another; pity; sympathy; fellow-feeling. COMPASSI'ONATE, *a.* *-ăn-ăt*, inclined or disposed to compassion; merciful; pitiful; having a tender heart: V. to pity; to commiserate. COMPASSI'ONATING, *imp.* COMPASSI'ONATED, *pp.* COMPASSI'ONLESS, *a.* COMPASSI'ONATELY, *ad.* *-lě*.—SYN. of 'compassion': pity; mercy; sympathy; commiseration; clemency; leniency; condolence;—of 'compassionate': pitiful; merciful; sympathizing; tender; soft; kind; indulgent.

COMPAS'SIONATE ALLOW'ANCE: small pecuniary allowance made to the children of deceased British military and naval officers left in necessitous circumstances.

COMPATIBLE, *a.* *kõm păt'î-bl* [F. *compatible*; It. *compatibile*, suitable, compatible—from mid. L. *compat'ibilis*, said of a benefice that could be held together with another—from L. *con*, *patiōr*, I suffer]: that may exist with; suitable; fit; consistent with. COMPAT'IBIL'ITY, *n.* *-bîl'î-tě*, consistency; suitability; agreement. COMPAT'IBLY, *ad.* *-î-blě*.—SYN. of 'compatible': accordant; agreeable; congruous; consistent; suitable.

COMPATRIOT, *n.* *kõm-pă'trî-õt* [F. *compatriote*, one's countryman, a compatriot—from mid. L. and It. *compatriōta*, compatriot—from L. *con*, *patriā*, one's native country]: a fellow-patriot: ADJ. of the same country; of like interests and feelings.

COMPEER, *v.* *kõm-pēr'* [F. *comparoir*, to appear in law—from L. *con*. *parēō*, I obey]: in *Scots law*, to appear in a court by order, either in person or by counsel. COMPEER'

ING, imp. COMPEERED', pp. -pērd'. COMPEER'ANCE, n. -āns.

COMPEER, n. *kõm-pēr'* [Norm. F. *comper*, an equal, a comrade; F. *compère*, a godfather—from L. *compar*, like or equal to another—from *con*, *par*, equal]: an equal; a companion or colleague: V. to equal; to match.

COMPEL v. *kõm-pěl'* [L. *compel'lēre*, to drive or force together—from *con*, *pello*, I drive: It. *compellere*]: to drive on forcibly; to force; to oblige; to constrain. COMPEL'LING, imp. COMPELLED, pp. *kõm-pěld'*. COMPEL'LER, n. one who. COMPEL'LABLE, a. -lǎ-bl, that may be forced. COMPEL'LABLY, ad. -lǎ-blǎ.—SYN. of 'compel': to force; coerce; constrain; oblige; necessitate; bind.

COMPENDIUM, n. *kõm-pěn'dĩ-ũm*, or COMPEND, n. *kõm'pěnd* [L. *compendĩũm*, a shortening: It. *compendio*]: an abridgment; a summary; a book containing the substance of a larger work. COMPEN'DIOUS, a. -dĩ-ũs [L. *compendiũsus*, reduced to a small compass]: short; concise; abridged. COMPEN'DIOUSLY, ad. -lǎ. COMPEN'DIOUSNESS, n. the being contained within a narrow compass.—SYN. of 'compendious': brief; concise; short; summary; abridged; succinct; comprehensive;—of 'compendium': an abridgment; summary; epitome.

COMPENSATE, v. *kõm-pěn'sāt* [L. *compensātus*, reckoned or weighed one against another, counterbalanced—from *con*, *penso*, I weigh out carefully: It. *compensare*: F. *compenser*—*lit.*, to reckon or weigh one thing against another]: to make amends for; to give equal value to; to recompense. COMPEN'SATING, imp. COMPEN'SATED, pp. COMPENSATION, n. *kõm'pěn-sā'shũn*, amends; recompense; what is given to supply a loss or make good a deficiency; satisfaction. COMPENSATION OF ERRORS, in *physics*, method of neutralizing errors which cannot be avoided, by introducing into the experiment or observation, others of an opposite nature, and equal in amount; the compensation pendulum illustrates the principle: see PENDULUM. COMPENSATION-BALANCE, a balance-wheel for a watch or a chronometer, so constructed as to make isochronal (equal time) beats, notwithstanding changes of temperature. COMPENSATION-STRIPS, two blades of copper and iron soldered together and fixed to the rod of a pendulum, the copper rod, which is the more expansible, being below the iron. As the temperature falls, the pendulum rod becomes shorter, but the strips, if in their normal state horizontal, now curve with the convex portion upward. If the temperature rises, the pendulum ball descends, but the strips which now curve with their convexity downward, make a compensation for this. Both in the former case and in that now described, the centre of oscillation of the pendulum is not disturbed. Compensation-strips are called also *compensating* strips. COMPEN'SATIVE, a. -sǎ-tǐv, or COMPEN'SATORY, a. -sǎ-těr-ĩ, making amends.—SYN. of 'compensate': to requite; reward; recompense; remunerate; counterbalance;—of 'compensation': recompense: remu-

COMPENSATIO INJURIARUM—COMPETENT.

neration; amends; satisfaction; requital; reward; meed; guerdon.

COMPENSATIO INJURIARUM, *kõm-pěn-sā'ŕi-o in-jõ ri-ā'rũm*: a defense against actions of damages for slander or the like. It is not a bar to action, but a *set-off* or counter-claim. It is not allowed to set-off one trespass or tort against another.

COMPENSA'TION (COUNTER-CLAIM), in Scottish and Continental European Law : see SET-OFF.

COMPESCE, v. *kõm-pěs* [L. *compescere*—from *compes*, a fetter—from *con*, with; *pes*, a foot]: to hold in check; to restrain.

COMPETE, v. *kõm-pět'* [F. *compéter*—from L. *competĕre*, to strive after—from *con*, *petĕre*, to fly to, to seek: It. *competere*]: to seek together for a thing; to seek or strive for the same thing or position as another; to strive to be equal.

COMPET'ING, imp. **COMPET'ED**, pp. **COMPET'ITOR**, n. *-pět'ĭ-tēr*, one associated with another as a rival in seeking anything; one who competes. **COMPETITION**, n. *kõm'pě-ŕish'ũn*, rivalry; strife for superiority; emulation. **COMPETITIVE**, a. *kõm-pět'ĭ-tĭv*, of or relating to competition, as a competitive examination; in the way of competition; emulous. **COMPET'ITORY**, a. *-tēr-ĭ*, acting in competition. —**SYN.** of 'competition': emulation; rivalry; rivalship; ambition; contention; contest; jealousy; opposition; struggle.

COMPETENT, a. *kõm'pě-těnt* [F. *compétent*, competent, sufficient, able—from L. *com'petens*, or *compĕten'tem*, fit, suitable—from *com*, *petĕre*, to fly to, to seek]: fit; suitable; adequate; able or qualified; in *law*, having power or right. **COM'PETENCE**, n. *-těns*, or **COM'PETENCY**, n. *-těn-sĭ*, fitness; suitability; sufficiency; legal right or power. **COM'PETENTLY**, ad. *-lĭ*. —**SYN.** of 'competent': fitted; qualified; adequate; sufficient; proportionate; commensurate; entitled.

COMPETITION.

COMPETITION, in Trade: defined by Dr. Johnson as 'the act of endeavoring to gain what another endeavors to gain at the same time.' Its most apt exemplification is a race, where all are going to the same point, and all strive to be first there, while though only one can achieve this object, some others will have the satisfaction of being nearer to success than the competitors who are behind them. The most important practical use of the word C. is in the political economy of trade, where it is the great motive power of production and enterprise. People work or embark in trade, avowedly for the purpose of making money. It is the object of the law of the land, as well as of religion and morality, to prevent money-making by immoral means; but within the bounds thus drawn around it, money-making is the object of man's exertion. When the money is made, the next point, always within the same bounds, is to make it buy as much as possible. C. works through the co-operation of these motives. The purchaser wants the best article that he can get, at the lowest price; the producer strives to beat all his fellows, and offer the best article for the price. So thoroughly is this principle established as one consistent with commercial morality and honor, that railway companies, managed by men of wealth and social position, many of whom are members of the legislature, do not hesitate to make travellers pay a larger fare for going 20 m. on their line to a station not touched by a rival company, than they will charge the same passenger for a journey of 40 or 50 m., if it be to a station which he could reach otherwise.

Whatever may be hereafter accomplished, all that is now known of the attempts to supersede C. by some other motive to exertion is that they have not been successful. Every day C. is seen increasing the necessities and comforts of life, and enlarging the wealth of the community. It is said that there are other and better motives which should produce the same effect, but they have not yet been found permanently at work on any large scale. It was an object of the ruling party in the French provisional government of 1848 to abolish C., and place all workmen on a par, as some expressed it, or, according to others, to remunerate them, not according to their services, but according to their wants. A great experiment was tried at the Hôtel Clichy, where 1,500 tailors were employed to make the uniforms for the national guards, the price of which was to be equally divided among the workmen; but even in that climax of enthusiasm, they did not work up to the mark of the lowest paid of the Paris tailors under the competitive system. As each one felt that the value of any extra exertion would be divided among the whole 1,500, instead of being enjoyed by himself, his zeal relaxed, and even the thought of 'liberty, equality, and fraternity' was insufficient to rouse it: see ATELIERS NATIONAUX. It appears wonderful that large bodies of the French people should have been so easily deceived by statements of which the fallacy, rather the actual inaccuracy, are so instantly evident. Louis Blanc supposes three competitors for a job. A has a wife and family; he wants 3 francs of wages. B has a wife only; 2½ francs will do with

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him. But C is a bachelor, who can subsist on 2 francs; therefore, he gets the job, and the others starve. See the second chapter of his *Organisation du Travail*, the title of which is, 'Competition is for the People a System of Extermination.' But he leaves out entirely one side of the bargain. Employers compete to get work as much as workmen compete for employment. If the work of B and C be worth, in the market, 3 francs, they will get that whether they have families or not; and it is not the practice of a workingman, any more than of the rest of the human species, to give his work at a third less than its value because he is a bachelor. The Socialists have referred to the public departments—especially to the post-office arrangements in Britain—for instances of services performed without competition. There is, however, in reality, much C. in all the govt. departments. Though tradesmen may not endeavor to undersell each other by making goods and offering them to the government, yet they endeavor to undersell each other by offering to undertake contracts at the lowest price. Doubtless, the practice of entering on government contracts is open to abuse, if the officers who look after them are careless, and neglect the detection of fraud or inefficiency. But the service of government by contract may be made as effective as any other kind of competition.

There are circumstances in which it is necessary to dispense with the external form of C., where nevertheless its influence rules. For the convenience of the public—especially of travellers—rates of fares are established for cab-drivers, porters, ferrymen, and the like. These men cannot be forced to undertake such functions: they do so because it pays them. Instead of making a separate contract for each job—an arrangement open to fraud and inconvenience—they make a general bargain with the public to serve all-comers. The rate of remuneration that they receive ought to be the closest possible approximation to what C. would fix. Whether it is so or not can be easily tested. If men do not come forward in sufficient numbers to serve the public, then the fixed rate is too low; on the other hand, if there is a superfluity of hands, a percentage of them being at all times unemployed, it is clear that the rate is too high, and that even partial employment in the line is sufficient to induce men to leave other occupations.

One of the most plausible arguments against free C. is that it throws away labor by producing more goods than are required. Five hundred hats are wanted, but a thousand are produced, and therefore half of them are wasted. In some such shape, the folly and waste of C. are generally illustrated by its opponents. It is very rarely that dealers are so utterly blind to the demand for the article in which they trade. It must be admitted, however, that C., like all other useful things, has its peculiar abuses, and of these perhaps the chief is the propensity which some tradesmen have to carry rivalry to the extent of vicious excitement, and to endeavor rather to get the better of each other than to make their separate fortunes. From this spirit, it frequently happens that when one man has established a successful busi-

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ness in some new locality, another, instead of trying a different business in the same place, or the same business in some similar place, enters perversely as a rival, and ruins both. One sets up, for instance, a grocery-shop in a new suburb; he succeeds, but there is not business enough for two; and if a rival enters beside him, both are ruined; whereas the success of the grocery should rather have hinted that a butchery or a bakery might have a good chance in the same place, or a grocery in some other suburb of similar character. Speculators in omnibuses and other horse-hired vehicles are signally liable to this sort of rivalry, often seeming unable to endure the sight of a brother of the trade driving a good, quiet, tolerably paying business: see COMMUNISM: SOCIALISM: TRADES UNION: POLITICAL ECONOMY (and references under it).

COMPETITIVE EXAMINATION for public offices has so recently been adopted, that there is little opportunity of judging of its effects. But it must be kept in view that this is something quite different from the kind of C. referred to above. Clever men may be secured to the public service by such a test, but it is clear that among the inducements for these clever men, as well as other public servants, doing their duty, must be something in the shape of promotion or otherwise which will have a constant influence on them after they are appointed: see CIVIL SERVICE.

COMPIÈGNE *kōng-pé-āñ'*: town in France, dept. of the Oise, on the river Oise, a little below its junction with the Aisne, 33 m. e.s.e. of Beauvais. A fine stone bridge crosses the river at this point. The town is irregularly built; it has a tribunal of the first instance, and one of commerce. The inhabitants are employed in hosiery, rope-making, boat-building, and in traffic in wood and corn. At C. is the magnificent palace, built anew by Louis XV., and splendidly fitted up by Napoleon, who often occupied it. It contains a library, a picture-gallery, and other objects of great interest. The park is extensive, and adjoining the gardens is the beautiful forest of Compiègne, extending over about 30,000 acres. C. is mentioned in the times of Clovis under the name of *Compendrum*; and it was the seat of several political assemblies and ecclesiastical councils. It was at the siege of this town, 1430, that the Maid of Orleans was captured; and here, in 1810, Napoleon and Maria Louisa of Austria first met, on occasion of their marriage.—Pop. (1881) 13,567; (1886) 13,857; (1891) 14,498.

COMPILE, v. *kōm-pīl'* [F. *compiler*—from L. *compilāre*, to plunder, to rob—from *con*, *pīlāre*, to pillage: It. *compilare*]: to select and arrange literary matter from one or various authors; to write or compose; to select and put together for publication; to collect and rearrange. COMPILING, imp. COMPILED', pp. *-pīld'*. COMPILER, n. one who selects and arranges literary matter from various authors or sources. COMPILATION, n. *kōm'pī-lā'shūn*, a book compiled; a selection from an author, or from different authors.

COMPLACENT, a. *kōm-plā'sēnt* [L. *com'plācens*, or

COMPLAIN--COMPLEMENT.

complācen'tēm, being pleasing to—from *con, placēō*, I please [F. *complaisant*]: pleasing and agreeable to one in manners and speech; having a desire or disposition to please; civil. COMPLA'CENCE, n. -*sēs*, or COMPLA'CENCY, n. -*sēn-sē*, pleasure, satisfaction; cause of pleasure. COMPLA'CENTLY, ad. -*plā'sēnt-lī*, softly; in a complacent manner. COMPLACENTIAL, a. *kōm'plā-sēn'shāl*, marked by complacence. COM'PLACEN'TIALLY, ad. -*lī*, in an accommodating manner. SYN. of 'complacency': pleasure; satisfaction; gratification; complaisance; civility.

COMPLAIN, v: *kōm-plān'* [OF. *complaindre*, to complain—from mid. L. *complan'gērē*, to bewail—from L. *con, plan'gērē*, to beat one's breast in agony, to lament aloud]: to utter expressions of grief, censure, resentment, uneasiness, or pain; to murmur; to find fault; to present an accusation against. COMPLAIN'ING, imp.: N. expression or act of complaint. COMPLAINED', pp. -*plānd'*. COMPLAIN'ER, n. one who. COMPLAIN'ANT, n. in *law*, one who carries on a suit or action against another; a prosecutor or plaintiff. COMPLAINT', n. -*plānt'* [F. *complainte*, a complaint]: expression of grief, regret, etc.; murmuring; fault-finding; a bodily ailment; a charge against any one or a thing, etc. COMPLAIN'INGLY, ad. -*lī*.—SYN. of 'complain': to murmur; repine; lament; deplore; remonstrate; expostulate; regret; bewail;—of 'complaint': lamentation; murmuring; sorrow; grief; disease; illness; sickness; malady; ailment; disorder; distemper.

COMPLAISANT, a. *kōm'plā-zānt'* [F. *complaisant*, affable, courteous—from L. *con, placēō*, I please, I delight (see COMPLACENT)]: pleasing in manners; courteous; civil; polite. COM'PLAISANT'LY, ad. -*lī*. COM'PLAISANCE', n. -*zāns'* [F. *complaisance*]: desire of pleasing; civility.—SYN. of 'complaisance': courtesy; civility; suavity; affability; urbanity; good-breeding; deference; condescension;—of 'complaisant': civil; affable; obliging; courteous; well-bred; polite; attentive; accommodating; considerate; condescending; accessible.

COMPLEMENT, n. *kōm'plē-mēnt* [L. *complementum*, that which fills up or completes—from *con, plēō*, I fill: It *complemento*: F. *complément*]: a filling up or completing; that which is wanted to complete or fill up some quantity or thing; something added by way of ornament. COM'PLEMEN'TAL, a. -*mēn'tāl*, or COM'PLEMEN'TARY, a. -*mēn'tēr-ī*, supplying a deficiency. COMPLEMENTAL MALES, short-lived additional males, complementary to hermaphrodite animals. They occur in the barnacles. COMPLEMEN'TING, n. *Complement*, in *trigon.*, the quantity required to make up any arc or angle to 90 deg., or the quarter of a circle; thus the C. of an arc of 60° is an arc of 30°: *supplement*, the quantity required to make up any arc or angle to 180 deg., or the half of a circle.—In *arith.*, the complement of a number is the number by which it falls short of the next higher number expressible by tens, as 10, or 100, or 1,000: thus, the arithmetical complement of 64 is $100 - 64 = 36$. Its use is chiefly in working proportions by logarithms.—In *astron.*,

COMPLETE—COMPLEXION.

the complement is the distance of a star from the zenith as compared with its altitude.—In *music*, the quantity required to be added to any interval to complete the octave; for example, a fourth is the C. of a fifth, a third is that of a sixth, etc.

COMPLETE, a. *kõm-plēt'* [L. *complētus*, filled up—from *con*, *plēō*, I fill: It. *completo*; F. *complet*, complete, entire]: filled up so as to make or be entire and perfect; without a flaw; perfect; not defective; finished; concluded; in *bot.*, applied to flowers possesssing all the four whorls of parts: V. to fill up so as to make entire and perfect; to finish; to perfect; to accomplish. **COMPLETING**, imp. **COMPLETED**, pp. **COMPLETION**, n. *-plē'shŭn*, act of completing; fulfillment. **COMPLETELY**, ad. *-lī*. **COMPLETENESS**, n. state of being without a flaw. **COMPLETORY**, a. *kõm-plē'tēr-ī*, fulfilling: N. the evening service; the compline of the R. Cath. Chh.—**SYN.** of 'complete, a.': entire; whole; total; perfect; finished; integral;—of 'complete, v.': to finish; close; conclude; terminate; end; perform; execute; achieve; effect; realize; accomplish; consummate; fulfil; effectuate.

COMPLEX, a. *kõm-plěks* [F. *complexe*—from L. *complexus*, entwined, encircled—from *con*, *plexus*, plaited, interwoven]: composed of two or more parts or things in an intricate arrangement; intricate; not simple; difficult. **COMPLEXLY**, ad. *-lī*. **COMPLEXITY**, n. *kõm-plěks'ī-tī*, state of being intricate.

COMPLEXION, n. *kõm-plěk'shŭn* [F. *complexion*, temper, disposition—from L. *complexiōnem*, a combination, a connection]: that which shows a connection or correspondence, as between the color of the skin and health of the body; the hue or color of the skin, particularly of the face; color of the whole skin; natural temperament or disposition of the body; the color or general appearance, as of the sky or circumstances. **COMPLEXIONAL**, a. pertaining to. **COMPLEXIONALLY**, ad. *-āl-lī*. **COMPLEXIONED**, a. *-shŭnd*, having a certain hue of skin; of a peculiar natural temperament.

COMPLEXION: in a medical sense, the temperament, habitude, and natural disposition of the body; in general use, the color of the skin existing in the epidermis and varied by a mixture of the pigment cells with the epidermic cells. The epidermis is also the seat of the colors of freckles and other superficial marks. In people of a dark C., especially in negroes, the epidermis is very thick, and its cells are filled with minute black or otherwise colored pigment granules, many of which also lie loose among them. The thickness of the epidermis in these people renders it less penetrable by the rays of heat, and it is hence and not on account of its color, which would have an opposite effect, that a negro can bear the exposure of his skin to a degree of solar heat which would blister that of a person of light C. Blumenbach divides the human race into five classes as to C.: Caucasian, white; Mongolian, olive; Ethiopian, black; American, red; and Malay, tawny. Dr. Hunter makes a closer

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distinction, including under *black*, Africans under the equator, inhabitants of New Guinea, and inhabitants of New Holland; *swarthy*, the Maories in the n of Africa, and the Hottentots in the s.; *copper*, East Indian; *red*, American aborigines; *brown*, Tartars, Persians, Arabs, Africans on the coast of the Mediterranean, and Chinese; *brownish*, the inhabitants of the s. portions of Europe, as Sicilians and Spaniards, as well as the Abyssinians in Africa, Turks, Samoides, and Laplanders; and *white*, most of the European nations, as Swedes, Danes, English, German, Polanders, Georgians, and inhabitants of the islands in the Pacific Ocean.

COMPLIABLE, COMPLIANT, etc.: see under COMPLY.

COMPLICATE, v. *kõm'plĩ-kāt* [L. *complicātus*, folded together—from *con*, *plēcō*, I fold: It. *complicare*: F. *compliquer*—*lit.*, to fold and twist together]: to involve; to entangle; to make intricate; to confuse. COM'PLICA'TING, imp. COM'PLICA'TED, pp. *-kāt'ēd*. COM'PLICA'TION, n. *-kāt'shũn*. COM'PLICATE, a. intricate; confused. COM'PLICATELY, ad. *-lĩ*. COM'PLICACY, n. *-kāt-sĩ*, state of being intricate. COM'PLICA'TIVE, a. *-kāt'tiv*, tending to involve.

COMPLICITY, n. *kõm-plĩs'ĩ-tĩ* [F. *complicité*, the being an accomplice—from *complice*, privy to (see COMPLEX)]: state of being an accomplice or sharer in guilt; condition of an accomplice. COMPLICE, n. *kõm'plĩs*, an associate or accessory in guilt; an accomplice.

COMPLIMENT, n. *kõm'plĩ-měnt* [F. *compliment*—from It. *complimento*, compliment, civility—from L. *complēre*, to fill up—from *con*, *plēcō*, I fill]: an expression of civility, respect, or regard—used in this sense generally in the plu., as, *my compliments* to a friend; a present or favor bestowed: V. *kõm'plĩ-měnt'*, to address with expressions of approbation, esteem, or respect; to flatter; to praise; to congratulate. COM'PLIMEN'TING, imp. COM'PLIMEN'TED, pp. COM'PLIMEN'TER, n. one who. COM'PLIMEN'TAL, a., or COM'PLIMEN'TARY, a *-měnt'ēr-ĩ*, containing or expressing civility, respect, or praise. COM'PLIMEN'TALLY, ad. *-tāl lĩ*.—SYN. of 'compliment, n.': flattery; adulation;—of 'compliment, v.': to praise; flatter; adulate; congratulate.

COMPLINE, or COMPLIN, n. *kõm'plĩn* [OF. *complie*, a compline: F. *complies*, complines—from mid. L. *complētae*, completed—from L. *complēre*, to fill up or complete]: the last division of the breviary of the R. Cath. Chh., the offices being named *matins*, *prime*, *tierce*, *sext*, *nones*, *vespers*, and *compline*; the last prayer at night, so called because it fills up or closes the services of the day: see CANONICAL HOURS.

COMPLUTENSIAN, a. *kõm'plō-těn'sĩ-ăn*, or COMPLUTENSIAN POLYGLOT [*Complutum*, ancient name of Alcalá de Henares, Spain, where published]: designating a polyglot Bible published by Cardinal Ximenes at very great cost to himself, in six vols., 1502–17. The first four vols. contain the Old Test., with the Hebrew, Latin, and Greek text in

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three columns, the Targum, and a Lat. version of the same. The fifth vol. contains the Greek New Test. and the Lat. Vulgate. The last vol. has the vocabularies and indexes. Pope Leo X. authorized its publication, 1522. Only 600 copies of this most valuable polyglot of the Scriptures were printed.

COMPLY, v. *kõm-plī'* [OF. *complie*, to complete, to perfect—from L. *complēre*, to fill up, to complete: It. *compiire*, to accomplish, to complete—from L. *con*, and *plēre*, to fill]: to act in accordance with the wishes of another; to yield to; to accord with; to be obsequious to; in *OE.*, to fulfil or complete. COMPLY'ING, imp.: ADJ. obsequious; yielding. COMPLIED', pp. *plid'*. COMPLIER, n. one who. COMPLI'ABLE, a. *-ā-bl*, that can bend or yield. COMPLI'ABLY, ad. *-blī*. COMPLI'ANCE, n. *-āns*, act of yielding to a desire or command; submission. COMPLI'ANT, a. *-ānt*, bending; yielding; disposed to yield. COMPLI'ANTLY, ad. *-lī*, in a yielding manner. — SYN. of 'compliance': submission; obedience; execution; consent; performance; concession;—of 'comply': to conform; yield; submit; agree; acquiesce; consent.

COMPONÉ, *kom-pō'na*, or GOBONY, *gō'bō-ně*, in Heraldry: a bordeur, pale, bend, or other ordinary, made up of two rows of small squares, consisting of alternate metals and colors.

COMPONENT, n. *kõm-põ'něnt* [L. *compōnēn'tēm*, placing or laying together—from *con*, and *pōnō*, I place]: an elementary part of a compound body; a constituent part: ADJ. constituent; helping to form a compound.

COMPORT, v. *kõm-põrt'* [F. *comporter*, to bear, to behave—from L. *comportāre*—from *con*, *porto*, I bear or carry]: to agree with; to suit; to behave or conduct. COMPORT'ING, imp. COMPORT'ED, pp. COMPORT'ABLE, a. *-ā-bl*.

COMPOSE, v. *kõm-pōz'* [F. *composer*, to compose—from mid. L. *compausāre*—from L. *con*, *positus*, placed or set: It. *composto*, composed]: to form one entire body or thing by joining together several individuals, things, or parts; to write as an author; to calm; to quiet; to place or dispose in proper form; to set up types; to form a piece of music by putting notes together according to the laws that regulate melody and harmony. COMPO'SING, imp. COMPOSED, pp. *kõm-pōzd'*: ADJ. calm; sedate; tranquil; formed; constituted. COMPO'SEDLY, ad. *-lī*, sedately; calmly. COMPO'SEDNESS, n. COMPO'SER, n. *-pō'zēr*, one who composes; one who writes music. COMPOSITION, n. *kom'pō-zīsh'ūn* [F.—L.]: the act of composing; the thing composed; any mass or body formed by combining together two or more substances; combining ideas or thoughts, arranging them in order, and committing them to writing; a book written by an author; any union, combination, or disposition of parts; the payment of a part only of a debt in lieu of the full debt; the sum so paid; *synthesis* as opposed to *analysis*; in *OE.*, consistency or congruity; agreement or compact. COMPOSING-FRAME, the stand on which a printer's cases

COMPOSITÆ.

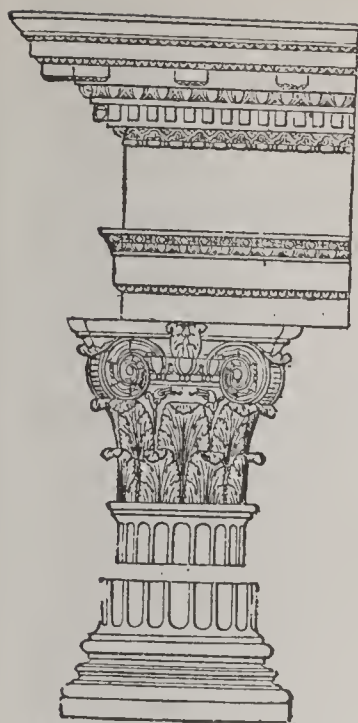
rest. **COMPOSING-STICK**, n. a small instrument in which types are set. **COMPOSITE**, a *kōmpōz'-it* [F. *composite*—from L. *compositus*]: made up of parts; compound; in *bot.*, having the structure of the *Compositæ*. **COMPOSITE ORDER**, in *arch.*, the last of the five orders of columns, so called from its capital being made up of parts borrowed from the others: see **COLUMN**. **COMPOSITE NUMBER**, a number that can be measured or divided by other numbers greater than a unit, or one. **COMPOSITE PORTRAITS**, portraits obtained by combining together several others. Mr. Francis Galton, 1877-78, thus combined from two to nine portraits, with the result of obtaining a normal one superior to any of those of which it was composed. **COMPOSITION-CLOTH**, a waterproof material made from long flax. **COMPOSITION-METAL**, a kind of brass, composed of copper, zinc, etc., used for the sheathing of ships. **COMPOSITIVE**, a. *kōm-pōz'-i-tiv*, able or tending to compound. **COMPOSITOR**, n. *-tēr* [F. *composteur*—from L. *compositōrēm*]: among *printers*, one who sets types, and puts them into pages and forms: see **TYPE**. **COMPOS MENTIS** [L.]: of sound mind; sane: see **INSANITY**.—**SYN.** of 'compose': to settle; establish: confirm; fix; institute; found; erect; form; figure; shape; fashion; constitute; construct; originate; adjust; regulate; tranquilize; quiet; soothe;—of 'composed': calm; still; quiet; serene; tranquil; peaceful; placid; settled.

COMPOSITÆ, n. plu. *kōm-pōz'-i-tē* [L. *compositus*, put together, compounded (see **COMPOSE**)], (called by Lindley **ASTERACEÆ**, and by some botanists **SYNANTHERÆ**): nat. ord. of exogenous plants, distinguished by *compound* or *composite flowers*, i.e., heads of flowers which are composed of a greater or smaller number of florets (generally of small size) congregated upon a common receptacle, and surrounded by bracts which form a leafy or scaly involucre, so as to resemble single flowers, which name they ordinarily receive. Another very marked characteristic is, that the anthers of each floret cohere into a cylindrical tube. The order contains both herbaceous plants and shrubs; those which are natives of cold climates being generally herbaceous, and those found in warm regions shrubby, or even arborescent. They have alternate or opposite leaves, without stipules. The florets are either unisexual or hermaphrodite—those of the circumference (or ray) often differing in this respect, as well as in form and color, from those of the centre (or disk) of the same head. Bracts (*paleæ*) are often interspersed with the florets upon the receptacle. The calyx is superior, closely adhering to the ovary, and essentially united with it, and afterward with the fruit, its limb either obsolete or membranous, crowning the ripened fruit, often divided into bristles, hairs, and feathers, which form a **PAPPUS** (q.v.). The corolla is of one petal, superior, either strap-shaped or tubular, both forms often appearing in different parts (ray and disk) of the same flower (or head) sometimes 2-lipped, very often 5-toothed. The stamens are equal in number to the teeth of the corolla, 4 or 5, and alternate with them. The ovary is 1-celled, with a single erect ovule; the style simple, with 2 stigmas; the fruit dry

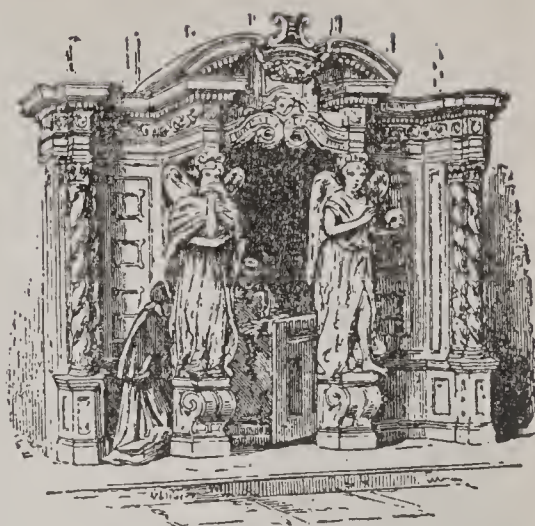
COMPOSITION.

and not opening (see *ACHENE*); the seed destitute of albumen.—This is the largest of the natural orders of flowering plants, containing upward of 1,000 genera, and almost 10,000 known species. They are distributed over all parts of the world; but increase in number from the poles to the tropics, and thence, again, diminish toward the equator. In the Linnæan sexual system, they form a distinct class, *SYNGENESIA*. Jussieu subdivided the order into three sections, and though other subdivisions have been proposed, these are generally recognized as sub-orders—*CYNAROCEPHALÆ*, having the florets all tubular; *CORYMBIFERÆ*, having a disk of tubular florets, surrounded by a ray of strap-shaped florets; and *CICHORACEÆ*, having all the florets strap-shaped. The *Cichoraceæ* abound most in cold, and the *Corymbifereæ* in warm climates. The artichoke and thistle are familiar examples of the *Cynarocephalæ*; the daisy, aster, dahlia, chrysanthemum, camomile, and sun-flower of the *Corymbifereæ*; and the dandelion, chicory, and lettuce of the *Cichoraceæ*. By cultivation, many of the *Corymbifereæ* are changed so that the florets of the disk assume the same appearance with the florets of the ray, as may be seen in the dahlia, chrysanthemum, aster, etc., and they are then said to be double, although the change which they have undergone is very different from that which has taken place in double flowers of other kinds. The C. are not, in general, of very great importance in domestic economy or in the arts, though many are among cultivated and useful plants. Only a few, as the artichoke, scorzonera salsify, Jerusalem artichoke, endive, and lettuce, are used for food, and these are of inferior importance. A very few, as safflower and saw-wort, afford dye stuffs; and a very few, as the Jerusalem artichoke and chicory, are occasionally cultivated for food of domestic animals; the use of chicory-root as a substitute for coffee is well known. From the seeds of some, a bland fixed oil is expressed—the sunflower, madia, and ram-til being the most important. Many are valuable for medicinal properties, as chamomile, arnica, wormwood, and some other species of artemisia, elecampane, tussilago, blessed thistle, etc. Many are characterized by bitterness; stimulating properties are of frequent occurrence; also anodyne, diaphoretic, diuretic, and narcotic properties. Some, as arnica, are very poisonous. A large number are esteemed ornaments of flower-gardens, particularly in the latter part of summer and in autumn. Among these, the dahlia perhaps holds the first place; and others, scarcely less admired, belong to the genera aster and chrysanthemum. The wood of the siriehout (*Tarchonanthus camphoratus*), a small tree of the Cape of Good Hope, is close-grained, heavy, and very beautiful.

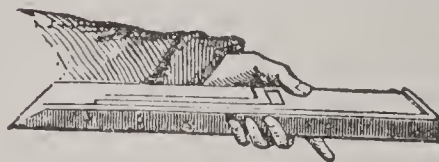
COMPOSITION, in Art: such an arrangement of the separate objects represented as that they shall all manifestly tend to bring out the centre thought or idea which animates the whole. Episodes and digressions are less admissible in æsthetic works of art than in poetry, and less in plastic art than in painting. In all works of art, it is to be borne in mind that the story is to be told to, and apprehended by, the



Composite Order.



Confessional, Cathedral of St. Gudule,
Brussels.



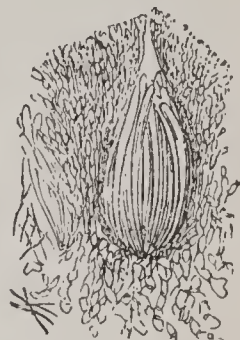
Composing-stick.



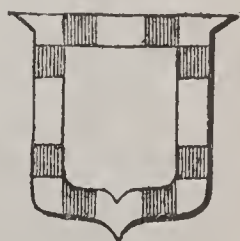
Section of Con-
duplicate Leaf



Confucius (reduced fac-simile of a rubbing
from a marble slab behind his temple at Kis-foo-
hien).



Conceptacle of an Alga,
embedded in cellular tissue



Bordure Compose.

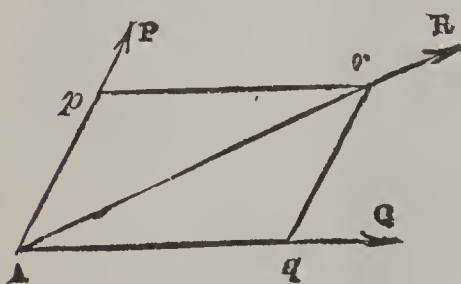
COMPOSITION OF FORCES.

eye alone. There is no surer proof of failure in æsthetic C. than when a picture is found to be totally unintelligible, even to intelligent persons, without the aid of a description in a catalogue. Rules are of little or no avail in this matter. There is but one canon of universal application—viz., that the artist should, in the first place, make it clear to his own mind what his work is to express; and that he should then consider by what arrangement of the objects that must, or may, be introduced into the picture, this will be best accomplished.

COMPOSITION, in Bankruptcy: a certain percentage or proportionate sum which creditors agree to receive from a bankrupt in lieu of full payment of his debts, and the acceptance of which operates as a discharge to the bankrupt, and reinvests him in his estate: see **INSOLVENCY**.

COMPOSITION AND RESOLUTION OF FORCES AND MOTIONS, in Mech.: **COMPOSITION**—the finding of a single force equal to two or more given forces acting in given directions: **RESOLUTION**—the converse of the above.

1. The fundamental problem in statics is to find the magnitude and direction of the *resultant* of two forces; in other words, to compound them into a single force, which shall be in every respect their equivalent. Intensity and direction being the only elements necessary to entirely describe a force, forces in statics are represented by lines, which are obviously capable of being made to represent them both in magnitude and direction. When two forces act along the same straight line on a particle, it is sufficiently obvious that if they act in the same direction, the resultant will be their *algebraical* sum; if in opposite directions, their *algebraical* difference. This being premised, the relation between two forces acting at the same point, but not in the same line, and their resultant, is set forth in the following theorem, which is known as the *Parallelogram of Forces*: If two forces, P, Q, acting on a particle A, be represented in direction and magnitude by the



lines Ap , Aq , then the resultant will be represented in direction and magnitude by the diagonal Ar of the parallelogram described upon Ap , Aq . The proof of this depends upon the simple principles, that a force may be supposed

to act at any point of its direction, that point being conceived to be rigidly attached to the particle on which the force acts; and what may be accepted as an axiom of universal experience, that when any number of forces are impressed on a particle or body, each exerts itself, as if the others were not acting, to produce its full effect: see any elementary treatise on mechanics. The doctrine of the parallelogram of forces has given rise to much controversy, not as to its truth, but as to its derivation, some appearing to contend that it is directly deducible from the axiom above stated, without the necessity of further reason-

ing.—Knowing how to compound two forces acting at a point, we are able to compound or determine the resultant of any number. If the forces, though in the same plane, do not act at the same point of a body, those of them whose directions meet may be compounded by the preceding rule; if they are parallel, their resultant is a force parallel to them and equal to their algebraical sum, counting those acting in one direction as positive, and in the opposite direction as negative. For the position of the resultant in this case, see PARALLEL FORCES. The singular case is that of equal parallel forces acting in opposite directions. These constitute a couple, and cannot be represented by any single force: see COUPLES.

2. The resolution of forces is the converse problem. To resolve a given force R , whose direction and magnitude is Ar , into two forces acting in any directions that may be chosen, as AP , AQ , we have only to draw parallels through r , which determine the lines Ap , Aq , representing the magnitude of the forces required. It is evident that there is an indefinite number of pairs of forces into which Ar might be resolved, according to the direction in which the new forces are to act. It is usual, however, to resolve a force into forces that are at right angles to each other.

3. The composition of motions is analogous in every way to that of forces; motions are the results of forces, and the analogy might be expected. If a body be actuated simultaneously by two velocities having different directions, it will evidently move in a direction intermediate to the two, and with a velocity which will in some way depend on each of them, and which is called their resultant. The proposition which sets forth how to find the resultant is called the *parallelogram of velocities*. It is: If two velocities, with which a particle is simultaneously impressed, be represented in direction and magnitude by two straight lines drawn from the particle, the resultant velocity of the particle will be represented in direction and magnitude by the diagonal of the parallelogram described on those two straight lines. The proof is very simple. There is no reason why the full effect of both velocities should not be produced, as if the body moved first with one of them, and then with the other in their respective directions. If in one *second* the body moving with the one velocity would reach p , and if we suppose it then to move on pr for another second, parallel with the other velocity, it would at the end of the second second be at r . Hence, under their joint influence, it will be at r at the end of one second.

4. The resolution of motions is altogether analogous to that of forces.

COMPOST, n. *kõm'põst*, in *OE.*, COMPOSTURE, *kõm-põs'tür* [*OF. composte*—from *It. composta*, a mixture; a compound—from *L. compositus*, compound—from *L. con*, *positus*, put or placed]: manure (q. v.), consisting of mixtures of substances adapted to the fertilization of the soil, which, being allowed to ferment, and undergo chemical changes for a considerable

COMPOSTELLA.

time in heaps, become more valuable than they were at first, or ever could have been if applied separately. C. was formerly made of farm-yard manure, and earth or lime in addition. Road-scrappings, peat-moss, leaves, and clearings of ditches, also formed materials for the purpose. By allowing these to lie for six months in heaps from 3 to 4 ft. in depth, food was prepared for plants. The mass was usually applied to the turnip crop, before artificial manures were known. The use of guano and other light manures has superseded in a great measure the necessity of this laborious process, and C. for turnips or barley is now little used. The wonderful effects that have resulted from the application of small doses of nitrogen and phosphoric acid have impressed farmers in general with the truth that the most energetic elements bear a small proportion in weight to the whole mass of farm-yard dung or C., and that the mixing of manures in heaps with earth does not repay the labor expended in the process. More care is now rightly bestowed in preserving manure from washings by rain. C. formed of leaves, ditch-scurings, road-scrappings, or any earthy matter containing a large percentage of vegetable matter, with the addition of lime, may still be used with benefit for pastures that are deteriorating, or where the soil is stiff. Where moss prevails, lime should enter largely as a component. On the other hand, where the soil is of a strong and clayey nature, earthy substances containing vegetable matter in larger proportions should be used. Vegetable matter has the effect of imparting a softness to the surface that is particularly conducive to the free growth of pastures. Compost made of turf, leaves, earth, and bone-dust is used with great benefit by gardeners for vines and fruit-trees which are injured by too concentrated manures.—C. designates also a kind of plaster or cement.

COMPOSTEL'LA, MILITARY ORDER OF ST. JAMES OF : Spanish knightly order. St. James, the elder, was adopted as the patron saint of Spain, after the victory of Clavijo, and his relics were preserved at Compostella (see SANTIAGO DE COMPOSTELLA). The marvels supposed to



Cross of the
Order
Compostella.

be performed by these relics drew vast numbers of pilgrims, for whose support hospitals were established by the pious canons of St. Eloy. The vicinity of the Moors having subsequently rendered the high-roads unsafe, 13 noblemen united for the protection of the pilgrims, and, in conjunction with the canons, resolved to found an order of the same kind as that of the Hospitallers or Templars. The pope granted his assent in a bull dated 1175, July 5, accompanied with the statutes of the order. Whatever conquests were made from the infidel were declared the property of the order, and a council of 13 knights was vested with authority to elect and depose a grand master. The knights made vows of poverty, obedience, and celibacy, and pro-

COMPOSURE—COMPOUND.

fessed their belief in the immaculate conception. To protect Christians, and convert infidels, they avowed as the only object in their wars with the Saracens. In most of the great battles between Christian and Moor the red cross of the order was conspicuous. The conquests of the order itself combined with the grateful munificence of the nation, speedily increased its wealth and power beyond those of any of the other orders of knighthood. In addition to the three large commanderies of Leon, Castile, and Montalvan, it had nearly 200 minor commanderies, comprising, it is said, more than 200 priories, with many fiefs, cloisters, hospitals, castles, boroughs, two towns, and 178 villages exclusive of its possessions in Portugal. This enormous wealth and power of the order excited the jealousy of the crown, in which, in 1522, the grand-mastership was permanently vested by the pope. Having thus become merely honorary and dependent on the crown, the order rapidly decreased in importance.

COMPOSURE, *n.* *kôm-pō'zhûr* [see **COMPOSE**]: a settled state of the mind; calmness; tranquillity; sedateness; in *OE.*, frame of mind; temperament; agreement.

COMPOTE, *n.* *kôm'pôt*, **COMPOTES**, *n. plu.* *kôm'pôtz* [*F. compote*—from *OF. compôte*—from *L. composita*, a compound]: stewed fruit; a preparation of fruit in syrup.

COMPOTIÈRE, *n.* *kôm'pôt-î-êr'* [*F.*]: a dish specially adapted for stewed fruit at table.

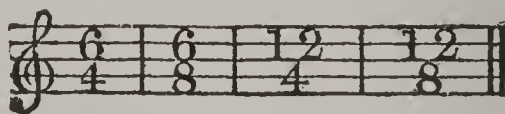
COMPOUND, *n.* *kôm'pound* [*L. compōnĕrĕ*, to set or place together—from *con*, *pōnō*, I set or put: probably confused with *L. con*, *pondus*, a weight, a mass]: a body formed by the union or mixture of two or more substances or parts; in *gram.*, a word composed of two or more words: **ADJ.** composed of two or more substances; composed of several parts. **COMPOUND**, *v.* *kôm-pound'*, to mix or unite two or more substances into one body or mass; to unite or combine; to adjust; to discharge by agreement, as a debt by composition; to come to terms of agreement; in *OE.*, to determine. **COMPOUNDING**, *imp.* **COMPOUND'ED**, *pp.* **COMPOUND'ER**, *n.* one who discharges a debt by certain fixed payments, or by several payments (see **INSOLVENCY**); one who endeavors to bring parties to terms of agreement; one who mixes ingredients. **COMPOUND'ABLE**, *a.* *-ă-bl*. **COMPOUND INTEREST**: see **INTEREST**. **COMPOUND HOUSE'-HOLDER**, in *British law*, *suffrage*, *etc.*, a householder whose landlord by agreement pays the rates for him. **COMPOUND-RAIL**, a rail made of several portions, with a longitudinal joint, avoiding the transverse joint across the rail, whereby the jarring is occasioned, a continuous rail; also applied to several other forms of rails consisting of portions joined together. **COMPOUND REST**, the tool-carrier of an engine-lathe, moved longitudinally (along the work) by the leading-screw, actuated by the feed: and transversely (to or from the work), by its own feed-screw.

COMPOUND, *n.* *kôm'pound* [corrupted from *Port. campania*]: the inclosure which surrounds a house or building.

COMPOUND ANIMALS—COMPRADOR

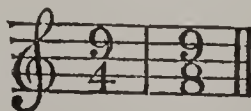
COMPOUND ANIMALS: those animals, exclusively of the lowest classes, in which individuals distinct as to many of the powers of life are yet united in some part of their frame, so as to form one living system. Examples are found in many animalcules and zoophytes, also in cestoid worms and ascidian mollusks. The whole living system in all C. A. appears to originate from a single egg or germ, and each is at first simple; the subsequent multiplication of individuals, having distinct organs, but permanently retaining their connection with the system, has some analogies with some of the modes of true reproduction. It is important, also, to observe that many C. A. exhibit very close relations to other animals which in no degree possess this remarkable character. The subject of C. A. is extremely interesting. This occasional peculiarity in animal life has by some been regarded as affording some countenance to the theory of Darwin concerning plants, that each bud is to be accounted a distinct individual. But the term individual must be modified in its sense, when applied to the buds of a tree, or the polyps of a polypidom.

COMPOUND COMMON TIME, in Music: species of measure containing the value of two dotted minims in a bar, or two dotted crotchets; marked thus:



COMPOUNDING OF FELONY, in Law: the offense of taking value for forbearing to prosecute a felony, and is punishable with fine and imprisonment. Compounding of informations upon penal statutes, and compounding of misdemeanors, are also illegal, unless with leave of court, and are punishable in lighter degree. But in misdemeanors affecting only private (and not public) rights, the court will often permit the defendant to make the prosecutor some pecuniary amends, and thereupon withdraw the prosecution. Accepting a promissory note as consideration for not prosecuting in a case of larceny constitutes the offense. Mere retaking of stolen goods by the owner does not of itself constitute the offense. A species of C. of F. often practiced with impunity is the advertising a reward for stolen property, coupled with words implying that no questions will be asked, or that no prosecution will be instituted.

COMPOUND TRIPLE TIME, in Music: a measure of nine crotchets or quavers in a bar; marked thus:



COMPRADOR, n. *kõm'pră-dõr'* [Port. and Sp.]: a Chinese head-manager; a steward for household matters; the

COMPREHEND—COMPRESSED-AIR BATH.

agent with whom Europeans negotiate on business matter with the Chinese.

COMPREHEND, v. *kõm'prě-hěnd'* [L. *comprehen'dērě*, or *compre'n'dērě*, to lay or catch hold of—from *con*, *prehendo*, I seize or grasp; *prehensus*, laid hold of firmly: It. *comprendere*: F. *comprendre*—*lit.*, to lay or catch hold of, as with the hands]: to comprise or include; to contain in the mind; to conceive; to understand. **COMPREHENDING**, imp. **COMPREHENDED**, pp. **COMPREHENSION**, n. *-hěn'-shün* [F.—L.]: capacity of the mind to understand; power of the understanding to receive ideas. **COMPREHENSIBLE**, a. *hěn'si bl*, intelligible; that may be comprehended or understood. **COMPREHENSIBLY**, ad. *-sī blī*. **COMPREHENSIBLENESS**, n. *-sī-bl-něs*, or **COMPREHENSIBILITY**, n. *-bīl'ī-tī*, capability of being understood. **COMPREHENSIVE**, a. *-hěn'-siv*, having the power to understand many things at once; embracing much; large; full. **COMPREHENSIVELY**, ad. *-siv-ļi*. **COMPREHENSIVENESS**, n. the quality of embracing much in a narrow compass.—**SYN.** of 'comprehend': to comprise; contain; include; embrace; imply; apprehend; conceive; understand; grasp;—of 'comprehensive': extensive; wide; large; full.

COMPRESS, v. *kõm-prěs'* [L. *compressus*, pressed together—from *con*, *pressus*, pressed, kept under: It. *compresso*]: to press together; to bring within narrow limits; to squeeze; to crush or force into a smaller bulk. **COMPRESSING**, imp. **COMPRESSED**, pp. *-prěst'*: **ADJ.** in *bot.*, flattened laterally or lengthwise. **COMPRESSION**, n. *-prěsh'ün*, the act of forcing into a narrower compass; in *anat.*, pressure upon the brain caused by a severe injury. **COMPRESSIBLE**, a. *-prěs'si-bl*, that may be squeezed into smaller bulk. **COMPRESSIBILITY**, n. *-bīl'ī-tī*, the quality of yielding to pressure. **COMPRESSIVE**, a. *-siv*, having the power to compress. **COMPRESSOR**, n. *-sēr*, that which serves to compress. **COMPRESSURE**, n. *-prěsh'úr*, the act or force of bodies pressing together. **COMPRESSION-CASTING**, a mode of casting bronzes, etc., in molds of potters' clay under a pressure which causes the metal to flow into the delicate tracery left by the pattern. The effect approaches nearly the work of the graver and chisel.—**SYN.** of 'compress': to press; squeeze; crowd; condense.

COMPRESS, n. *kõm'prěs* [F. *compresse*, a surgical compress—from OF. *compresser*, to press together (see **COMPRESS** 1)]: folds of soft linen cloth, used to cover the dressings of wounds, etc., or to keep them in their proper place and defend them from the air.

COMPRESSED-AIR BATH: large chamber in which patients sit under increased atmospheric pressure for a greater or shorter period. An attempt at this kind of treatment was made as early as 1662 by Dr. Henshaw, but failed, owing to the imperfection of the apparatus. The apparatus, as now used, is the invention of M. Emile Laburié of Paris, who in 1832 conducted a series of careful experiments upon the effects of the atmospheric air at different densities upon the human frame. The bath is a

COMPRESSED-AIR ENGINE.

chamber 9 ft. in diameter and 12 ft. high; it is constructed of iron plates riveted together like those of a boiler of a steam-engine, so as to be perfectly air-tight; it is provided with two close-fitting iron doors, which can be opened without affecting the pressure of the air within the chamber; the interior is lined with wood, and furnished with seats; a steam-engine of seven horse-power works a pair of large air-pumps, communicating indirectly with the chamber by a pipe that opens by means of numerous small holes in the bottom of the floor, so that the air enters imperceptibly into the chamber; from the roof, a pipe similarly arranged allows the breathed air to escape. Each of these tubes is supplied with a screw valve, by means of which the inlet and exit of the air are regulated. Two barometers hang on the walls of the chamber, to show the rate of increase and decrease of pressure. The pressure is raised at the rate of 1 lb. every 4 minutes, and the lowering takes place at the same rate. The pressure is usually raised to 7 lbs. per sq. inch, in addition to the usual pressure of the atmosphere. The period generally prescribed for remaining in the bath is 2 hours.

The diseases in which the C. B. is said to be most efficient are phthisis, asthma, and chronic bronchitis. The effects are attributed to two causes: 1. A greater quantity of air, and consequently of oxygen, is inhaled in a given time; and not only so, but the amount absorbed is increased in proportion to the pressure of the gas against the walls of the air vesicles. The increased absorption of oxygen and excretion of carbonic acid enables the lungs to perform their functions more efficiently, and thereby removes any congestion existing in these organs. 2. The increased mechanical pressure of the air upon the mucous membranes, when in a state of chronic congestion, has a bracing effect, and imparts renewed vigor to the entire structure of the lungs and bronchi. At Ben-Rhydding (q.v.) in Yorkshire, England, the C. B. is used in cases of the kind above named, with the usual appliances of the water-cure.

COMPRESSED'-AIR ENGINE: one mode of the application of air, in the manner of high-pressure steam, as a motive power. Another mode is by the **CALORIC ENGINE** (q.v.). Although compressed air has been used for working small engines in confined situations, such as tunnels (q.v.), it is not likely ever to come into extensive use, in view of the great waste of power attending it. This waste arises from two causes—first, the friction due to forcing the compressed air along a great length of pipe; and secondly, the loss from the dissipation of the great heat which results from its compression. If, say, 100 cubic ft. of air is compressed into 1 cubic ft., it will become very hot, and although it is very easy to keep in the air, it is impossible to keep in the heat. In spite of every precaution, the heat will find its way through the vessel in which the air is confined, and through the pipes in which it is being transmitted, and this is equivalent to a portion of the air itself leaking out, because, when the air is permitted to

COMPRESSED-AIR ENGINE.

expand in working the engine, it will not attain its original bulk of 100 cubic ft. The greater the original compression of the air, the higher its temperature will rise; and as this caloric, which cannot be kept from escaping, is practically a part of the bulk of the air, it follows that the loss of power from this cause will increase with the pressure or tension of the air. Even were it possible to prevent the escape of the heat, by covering the vessels and pipes with some non-conducting substance, it would not be practicable to use the hot air in the same way as steam is used, because the lubricating material necessary to keep the piston and slide-valves from 'tearing' would be decomposed by the high temperature. In steam-engines there is always a small quantity of water in the cylinders and slide-valves, arising from the condensation of a portion of the steam, and this suffices to lubricate the piston and valves. It is well known that when steam is *superheated* so highly as to prevent a slight condensation in the cylinder and slide-valves, they are very rapidly destroyed. Indeed, no fluid can be economically used for transmitting power for any great distance. Steam is even more wasteful than compressed air, because in long pipes it condenses into water. Water itself in passing through long pipes loses much of its force from friction, unless the pipes are of very large size; and in applying it to Hydraulic Cranes (q.v.), where the weight to be raised varies, great waste of power arises from the fact that the cylinder in which the ram works has to be filled every time the crane is worked with water at the full pressure of 600 or 700 lbs. to the sq. inch, even when a pressure one tenth of that amount would suffice to raise the weight: in short, the power actually used in working a hydraulic crane is always the maximum, even when the weight to be raised is a minimum. It *uses* as much power to lift a hundred-weight as to lift a ton. The extreme handiness and other practical advantages possessed by the hydraulic cranes leave a large balance in their favor, notwithstanding their waste of power.

In boring the Mont Cenis Tunnel (see TUNNEL), air was compressed at the mouth of the tunnel by the abundant water-power easily obtainable there, and forced along to the working face through small iron pipes, for working the boring-machines. The tunnel through the Hoosac Mountain, Mass., also was bored by compressed air working the rock-drills. A plan has been proposed for using ordinary steam-boilers and engines close to the working face in the tunnel, and drawing out the smoke and vitiated air through a wooden trunk. Another fairly successful application of compressed-air engines has been in the working of coal-cutting machines. Of these machines, Firth's in England, Gladhill's in Scotland, and Brown's in America, have been in practical operation for several years; but they can as yet be economically worked only under exceptionally favorable circumstances. Experiments have been recently tried to propel tramway cars with compressed air; in this department there may yet be found successful

COMPRESSIBILITY—COMPROMISE.

application of this power. Engines for the compression of air are used in making ice. See REFRIGERATING MACHINES.

COMPRESSIBILITY: that property of bodies by which they admit of being forced or pressed into less space than they formerly occupied. The particles composing bodies are in all cases at greater or less distances from one another; and whatever brings the particles closer together diminishes the volume or bulk of the body. This may be effected by various agencies, as, e.g., by the withdrawal of heat (q.v.); but the effect is called compression only when it is caused by mechanical force, as by pressure or percussion. All bodies are compressible, but in different degrees. Many solids, especially those of a compact structure, have this property in only slight degree. It was believed at one time that liquids were incompressible; more accurate experiments have proved this an error; water, for instance, subjected to a pressure of 15,000 lbs. on the sq. inch, loses $\frac{1}{20}$ of its volume. Gases, on the other hand, are strikingly compressible; by means of a common condensing syringe, a number of cubic inches of air can be forced into the space of one inch. Compression is in almost every instance accompanied by an evolution of heat. When a piston, having a piece of German tinder attached to the bottom, is forced rapidly to the bottom of a shut condensing syringe, and rapidly withdrawn, the tinder is found ignited.

In a restricted sense, those gases are said to be compressible which, under great pressure, become liquid. This is the case with carbonic-acid gas, chlorine, sulphurous acid gas, and others. Atmospheric air and its components have hitherto resisted all attempts to liquefy them; though it is believed that only a sufficient degree of pressure and cold is necessary to make any gas liquid. Carbonic acid and some other gases are liquefied in small quantities by enclosing the ingredients necessary for generating the gas in a strong glass tube, keeping them separate till the tube is hermetically sealed. The gas, as it is produced, is condensed into a fluid by its own pressure, which is aided by keeping one end of the bent tube in a cooling mixture.

COMPRISE, v. *kôm-prîz'* [F. *compris*, comprised, included—from F. *comprendre*—from L. *comprehen'dêrê*, to comprise, to include]: to include within itself; to comprehend; to contain or embrace. **COMPRI'SING**, imp. **COMPRISED'**, pp. *-prîzd'*. **COMPRI'SAL**, n. *-prî'zâl*, the act of comprising.—**SYN.** of 'comprise': to contain; comprehend; include; embrace; involve; imply; encircle; inclose.

COMPROMISE, n. *kôm'prô-mîz* [F. *compromis*, agreement, treaty, compromise—from L. *con*, *promissum*, a promise]: an agreement between persons having a dispute, to settle their differences by mutual concessions; an arrangement of differences in a dispute: V. to arrange and settle differences by mutual agreement; to agree; to pledge or engage: to put to hazard by some previous act not to be recalled, *as to compromise the honor of a nation*. **COM'PRO-**

COMPROMISE MEASURES OF 1850.

MISING, imp. COM'PROMISED, pp. -mīzd. COM'PROMISER, n. -zēr, one who.

COMPROMISE MEASURES OF 1850, or OMNIBUS BILL: series of eight resolutions presented in the U. S. Senate by Henry Clay (q.v.) 1850, Jan. 29, for the purpose of effecting an amicable settlement of the slavery controversy, which had been bitterly revived by the action of the citizens of California and New Mexico in forming a state constitution and govt. preparatory to seeking admission into the Union. Pres. Taylor, in his inaugural message five days before, had counselled congress to 'abstain from the introduction of those exciting topics of a sectional character which had produced painful apprehensions in the public mind,' and various propositions had been introduced in both houses in relation to the govt. of the newly acquired territory involving the question of slavery. At this juncture Mr. Clay declared (1) that California, with suitable boundaries, ought to be admitted as a state without restriction in respect to slavery; (2) that as slavery was not likely to be introduced into any of the territory acquired from Mexico, appropriate govts. ought to be established in all the territory not assigned to the state of California, without restriction as to slavery; (3) that the w. boundary of Texas should be fixed so as not to include any portion of New Mexico; (4) that the United States should pay the debt of Texas, contracted prior to annexation, and for which the duties on imports were pledged, not exceeding (a sum to be ascertained), on condition that the duties be thereafter payable to the United States, and that Texas relinquish all claim to any part of New Mexico; (5) that it was inexpedient to abolish slavery in the Dist. of Columbia, while it existed in the state of Maryland, without consent of the people of that state and of the dist., and without just compensation of the owners of the slaves; (6) that it was inexpedient to prohibit the slave trade within the dist.; (7) that more effectual provision ought to be made for the restitution of fugitive slaves; and (8) that congress had no power to prohibit the trade in slaves between the slave-holding states. Mr. Clay's resolutions were opposed by southern senators as making no concession to the south—as being no compromise at all; and they strongly objected to the admission of California, embracing all our possessions on the Pacific coast, with a provision prohibiting slavery. Mr. Calhoun said the Union was in danger because of the discontent at the south occasioned by the long-continued agitation of the slave question in the north, and the exclusion of the south from all the n.w. region by ordinance 1787, and from all the La. territory n. of 36° 30' except the state of Mo. by the Mo. compromise, and that the north was then endeavoring to appropriate the territory recently acquired from Mexico, adding 526,078 m. to the territory from which the south was, if possible, to be excluded. Senators Webster and Seward supported Mr. Clay's resolution. On 1850, Apr. 17, a committee of 13, a majority from the slave states, was appointed, with Mr. Clay as chairman, to con-

COMPT—COMPULSION.

sider further compromise measures proposed by Senator Bell (Tenn.), and it reported May 8 what has obtained the name of 'omnibus bill' from its numerous propositions. The bill was debated till late in July, and the other parts having been successively dropped by amendments, it passed the senate only as a bill to provide for the territorial govt. of Utah, and so also passed the house. Subsequently, however, the other portions of the bill were passed in separate bills. The 'omnibus' bill provided in brief (1) that the admission of any new state or states formed out of Texas should be postponed till they should present themselves to be received into the Union, when it would be the duty of congress fairly and faithfully to execute the compact with Texas, by admitting such new state or states; (2) the admission, forthwith, of California into the Union, with the boundaries she had proposed; (3) the establishment of territorial govts. without the Wilmot proviso (see WILMOT, DAVID), for New Mexico and Utah, embracing all the territory acquired from Mexico not in the boundaries of California; (4) the establishment of the w. and n. boundary of Texas, and the exclusion from her jurisdiction of all New Mexico, with a grant to Texas of a pecuniary equivalent; (5) more effectual enactments of law to secure the prompt delivery of fugitive slaves escaping into the free states; and (6) slavery not to be abolished in the Dist. of Columbia, but the slave trade therein to be prohibited under a heavy penalty. All the measures for compromise on the slavery question proved to be attempts at achieving the impossible.

COMPT, *n.* *kownt* [F. *compte*, account, calculation, reckoning—from mid. L. *compūtus*, account, calculation—from L. *compūtārē*, to reckon, to compute]: in *OE.*, computation; reckoning. COMPTROL, *v.* *kōn-trōl'* [mid. L. *compūtus rotulātor*, keeper of accounts: OF. *contre-rolle*, the copy of a roll of accounts]: to oversee and regulate the accounts of; to superintend and regulate the business of an office or department. COMP'TROL'LING, *imp.* COMP'TROLLED, *pp.* *kōn-trōld'*. COMPTROLLER, *n.* *kōn-trōl'ler*, one who superintends and regulates; a superior; a director. COMPTROL'LESHIP, *n.* the office or situation of a comptroller; superintendence: see CONTROL.

COMPTROL, *v.*, and COMPTROLLER, *n.*: see under COMPT.

COMPULSION, *n.* *kōm-pŭl'shŭn* [L. *compulsus*, driven together—from *con*, *pulsus*, driven (see COMPEL)]: the act of driving or urging by some kind of force; constraint of will or action; the state of being compelled: see DURESS. COMPUL'SIVE, *a.* *-sĭv*, able to compel; having power to compel or constrain by force. COMPUL'SIVELY, *ad.* *-lĭ*. COMPUL'SIVENESS, *n.* COMPUL'SORY, *a.* *-sĕr-ĭ*, not of choice; not voluntary; having the power to compel. COMPUL'SORILY, *ad.* *-lĭ*, in a violent or forcible manner; by violence. COMPULSATORY, *a.* *kōm-pŭl'sŭ-tĕr-ĭ*, in *OE.*, having the power of compelling; not of choice but by constraint.—*SYN.* of 'compulsion': constraint; violence; necessity; urgency.

COMPUNCTION—COMRIE.

COMPUNCTION, n. *kǒm-pǔngk'shǔn* [OF. *compunction*; F. *componction*, compunction, remorse—from L. *compunctiōnem*, a pricking—from *con*, *punctus*, pricked or stung: It. *compunzione*—*lit.*, the power of pricking or stinging]: grief, anguish, or remorse from a consciousness of guilt; the sting of conscience; repentance. **COMPUNCTIONLESS**, a. **COMPUNCTIVE**, a. *-tív*, causing remorse. **COMPUNCTIOUS**, a. *-shǔs*, repentant; full of remorse.—**SYN.** of 'compunction': remorse; repentance; penitence; contrition; regret; grief.

COMPURGATION, n. *kǒm-pér-gǎ'shǔn* [L. *compurgātiōnem*, a purifying completely—from *con*, *purgo*, I make clean]: the practice of confirming any man's veracity by the testimony of another. **COMPURGA'TOR**, n. *-tér*, one who bears testimony to the veracity of another. **COMPURGATORIAL**, a. *kǒm-pér'gǎ-tō'rǐ-ǎl*, of or relating to compurgation. Compurgators were 12 persons whom the law of our Saxon ancestors permitted the accused to call in proof of his innocency, and who joined their oaths to his. They were persons taken from the neighborhood, or otherwise known to the accused. It was rather in the character of jurymen than of witnesses that the C. acted, for what they swore to was not their knowledge, but their belief, and the institution belonged to a time when what has since been spoken of as the Saxon jury was taken from the persons in the neighborhood best acquainted with the matter to be investigated, and when they performed the combined functions of jurors, witnesses, and judges. The system of C. was adopted even in civil actions for debt, and the ceremony of what was called canonical purgation of clerks-convict was not abolished in England till 18 Eliz. c. 7.

COMPUTE, v. *kǒm pūt'* [F. *comput*, computation—from L. *computāre*, to sum up, to reckon—from *con*, *putāre*, to think or reckon: It. *computare*: F. *compter*]: to sum up or reckon; to number; to throw together several sums or particulars in order to ascertain their collective value: to estimate; to calculate. **COMPU'TING**, imp.: **ADJ.** calculating; reckoning. **COMPU'TED**, pp. **COMPU'TER**, n. one who. **COMPU'TABLE**, a. *-tǔ-bl*, that can be numbered or reckoned. **COMPUTA'TION**, n. *-tǔ'shǔn*, the act of computing or numbering; the process by which the sum, quantity, or result of any number of particulars may be ascertained; the sum, quantity, or result thus ascertained. **COMPUTATION OF TIME**: see **DAY**: **HOROLOGY**.—**SYN.** of 'compute': to calculate; reckon; count; estimate; enumerate; rate; number.

COMRADE, n. *kǒm'rād* [F. *camarade*, a company that belongs to one chamber, a companion—from Sp. *camarada*, one who shares the same chamber, a comrade: comp. Gael. *comaradh*. booty; *còmhnaidh*, help, assistance—*lit.*, one who renders help or assistance, a chamber fellow]: a mate; an intimate companion; an associate in occupation.—**SYN.**: companion; associate; colleague; partner; mate.

COMRIE, *kǔm're*: village and parish in the middle of

Perthshire, Scotland, on the Earn, a little e. of Loch Earn, 20 m. w. of Perth. It lies amid the very picturesque scenery of the clay-slate band of Scotland, and is noted for frequent slight shocks of earthquakes. It has woolen and cotton weaving, and distilleries. Pop. (1881) 1,038.

COMSTOCK, *kūm'stok*, JOHN LEE : 1789–1858, Nov. 21; b. Lyme, Conn.: author. He became a physician, served in the army during the Mexican war, and afterward applied himself to compiling school text-books. His most noted work was the *System of Natural Philosophy* (1831), which had an enormous sale, and was translated into many foreign languages. Among his other works were a *History of the Greek Revolution* (New York, 1828); *History of the Precious Metals* (Hartford, 1849); *Introduction to Mineralogy* (1832); and school books on chemistry, botany, geology, physiology, natural history, physical geography, etc. He died at Hartford.

COMTE, *kōngt*, AUGUSTE : founder of the 'Positive Philosophy': 1795 (or 97)–1857, Sep.; b. Montpellier, France. He studied at Paris; and at an early period, it is said, attracted the attention of his companions by the audacity and novelty of his speculations, maintaining that the time was come when philosophy must undergo another great change, as in the days of Bacon. G. H. Lewes, who regarded C. as the Bacon of the 19th c., only much greater, informs us that C. was but *fourteen* years old when 'the reforming spirit awoke' in him (see *Exposition of the Principles of the Positive Philosophy*, by G. H. Lewes, Bohn, London, 1853). Shortly after this, and while still laboring under the excitement of his new convictions, he became acquainted with St. Simon; entered enthusiastically into his theories, which had not a little in common with his own, and which had in addition this advantage, that they were the results of matured thinking (St. Simon being then between 50 and 60 years of age); and in 1820 was appointed by the master himself to prepare an exposition of the *Politique Positive* of the St. Simonian Society. The work did not satisfy St. Simon, who deplored the absence of the 'religious and sentimental aspects' of his system. In 1825, on the death of St. Simon, C. broke off altogether from his *confrères*, and in after-years was accustomed to speak slightly of his old master's abilities. In 1826, C. was attacked by a cerebral disorder, brought on by 'overwork and heart-anxieties.' He recovered, however, and in 1832 was appointed prof. of mathematics at the *École Polytechnique*, which situation he was forced to resign, 1852, on account of differences with his colleagues. He died at Paris.

C's works are—*Cours de Philosophie Positive* (6 vols., Par. 1830–42; freely translated into English, and condensed by Harriet Martineau, 2 vols. 1853), *Traité Élémentaire Géométrie Analytique* (1843), *Traité d'Astronomie Populaire* (1845), *Discours sur l'Ensemble du Positivisme* (1848), *Système de Politique Positive* (4 vols. 1851–54; Eng. trans. 1875 *et seq.*, Longmans), and *Catéchisme Positiviste. ou Sommaire Exposit-*

tion de la Religion Universelle (1 vol., Par. 1852). For a full account of C.'s system, see POSITIVISM. C.'s fundamental doctrine is this: 'The race (like the individual) necessarily passes through three intellectual stages—1. The *theological*, in which a supernatural origin is sought for all phenomena, and the *Deus ex machinâ* is the only explanation of events; 2. The *metaphysical*, in which the *sensuously* supernatural is set aside as incredible, and an effort is made to demonstrate the existence of 'abstract forces or entities supposed to inhere in various substances, and capable of engendering phenomena;' 3. The *positive*, in which the mind affirms the futility both of theological and of metaphysical inquiries, abandons all vain search after the *causes* and *essences* of things, 'restricts itself to the observation and classification of phenomena, and to the discovery of the invariable relations of succession and similitude which things bear to each other; in a word, to the discovery of the *laws* of phenomena.' This last is the stage at which C. conceives Europe to have arrived. Theology and metaphysics are alleged to be in their dotage, and all the anarchy of modern life to arise from the presence of these disturbing elements. To deliver us from their hurtful influence, C. employs the principles of positivism to organize a new social doctrine, which shall embrace the entire wants of man as an intellectual and emotional being. C. thus aims at being the founder not only of a new philosophy, but also of a new religion, and has even assumed the title of *Fondateur de la Religion de l'Humanité*. His views, which certainly are original and comprehensive, have excited much attention among thinkers in France, England, and Germany, and obtained not a few ardent adherents; though the system finds favor with only a special class of minds, and is not known to be gaining acceptance largely in recent years.

COMTISM, n. *kõm'tizm* [F. *Comte*; Eng. suf. *-ism*]: the philosophy of M. Auguste Comte.

COMUS, *kõ'mus*, in Greek Mythology: the god of revelry, of rejoicings, and feastings. He presided over dances and debaucheries, and was represented by Philostratus as being young and fair, with a face reddened by too frequent drinking, carrying in his hands a burning flambeau held down to the ground, seeming to burn his legs with it. He was crowned with garlands of flowers amid feasting and dissipating pleasures. According to Milton he was a son of Bacchus and Circe, was educated by his mother, and became a sorcerer.

CON, *kõn* [L. *cum*, with]: a prefix meaning, together, with: *con* assumes the various forms of *co*, *cog*, *col*, *com*, *cor*, according to the commencing letter of the other part of the word of which it forms the prefix: see *Co*.

CON, prep. *kõn* [It.]: with; at; from. CON AMORE, *ã-mõ'rã*, from love to the work: enthusiastically. CON ANIMA, *ãn'ĩ-mã*, with airiness and animation.

CON, *kõn* [a shortened form of the L. *contra*, against]:

CON—CONCAVE.

the negative side of a question; against; used in the phrase *Pro and con*, *for and against*.

CON, v. *kõn* [AS. *cunnan*; Goth. *kunnan*, to know; Sw. *kunna*, to be able]: to fix in the mind by frequent repetition; to study. CON'NING, imp. CONNED, pp. *kõnd*. To CON THANKS, to give thanks. To CON OVER, to learn by heart. To CON OUT, to obtain by talk and cunning. To CON ANSWER, to study an answer.

CONATION, n. *kõn-ā'shũn* [L. *conatio*—from *conor*, I attempt, I try]: the faculty of voluntary agency.

CONCAN, *kon'kan*: territory in the presidency of Bombay, between the Arabian Sea and the watershed of the Western Ghauts; lat. $15^{\circ} 44' - 20^{\circ} 22'$ n., and long. $72^{\circ} 52' - 73^{\circ} 45'$ e.; length 330 m., breadth 25–50 m. The more easterly section appears to be a succession of rocky terraces, of apparently volcanic origin. The maritime portion, averaging an elevation of 100 ft. above the sea, rises here and there to far greater heights, partly in isolated hills, partly in short ranges. The broad estuaries into which the rivers expand were formerly the retreats of pirates. Of the land available for cultivation, the larger part is on the banks of the rivers—the growth of rice in particular being promoted by the annual inundations. The chief peculiarity of the climate is, that the s.w. monsoon, arrested in its career by the lofty barrier on the e., has been known to yield, in one year, a rainfall of nearly 300 inches. Omitting the city of Bombay (q.v.) as not being on the mainland, the principal towns are Junera, Ratnagheriah, Viziadroog, and Vingorla. In 1818, on the fall of the peishwa of the Mahrattas, C. became British territory.

CONCATENATE, v. *kõn-kāt'ě-nāt* [L. *concatēnātus*, chained together—from *con*, together; *catēnātus*, chained, fettered; *catēna*, a chain]: to unite in a series or chain, as links of a chain, or ideas in the mind depending on each other; to link together: ADJ. in *bot.*, chained or linked together. CONCAT'ENATING, imp. CONCAT'ENATED, pp. CONCAT'ENA'TION, n. *nā'shũn*, a series or successive order of things connected with or depending on each other; a linking together.

CONCAVE, a. *kõn'kāv* [F. *concave*—from L. *concāvus*, completely hollow—from *con*, *cāvus*, hollow: It. *concavo*]: hollow: N. a hollow place scooped out; the inner surface of any rounded or spherical body—the inside is called the *concave surface*, the outside the *convex surface*. A surface is said to be C. when lines drawn from point to point in it fall between the surface and the spectator; and convex, when the surface comes between him and such lines; the terms, it is obvious, are mere terms of relation: see LENS; MIRROR. CONCAV'ITY, n. *kāv'ĩ-tì*, the inner surface of a rounded hollow body; the hollow place or part in any body. CONCA'VO-CON'CAVE, a. *kõn-kāvō*, concave on both sides. CONCA'VO-CON'VEX, a. concave on one side and convex on the other. CONCA'VOUS, a. *-kāv'vũs*, hollow; without angles. CONCA'VOUSLY, ad. *lĩ*.

CONCEAL—CONCENTAINA.

CONCEAL, v. *kõn-sēl'* [L. *concelārē*, to conceal—from *con*, *celārē*, to hide: comp. Gael. *ceil*, to hide: Ir. *ceal*, death]: to keep out of sight; to keep secret; to cover; to disguise; to dissemble. **CONCEAL'ING**, imp. **CONCEALED'**, pp. *sēld'*. **CONCEAL'ER**, n. one who. **CONCEAL'ABLE**, a. *-ā-bl*, that may be hid or kept close. **CONCEAL'MENT**, n. the state of being concealed; a keeping close or secret; the act of hiding or withdrawing from sight; a place of hiding; a secret place; in *law*, a suppression of the truth.—**SYN.** of 'conceal': to hide; secrete; cover; screen; shelter; disguise; dissemble.

CONCEAL'MENT, in Criminal Law: offense of concealing an offender, after the commission of a crime, with a view of shielding him from justice. It may be punished arbitrarily; but C., in consequence of an agreement before the crime was committed, involves the concealer in a charge of art and part in the principal crime.

CONCEALMENT OF PREGNANCY AND BIRTH: see **PREGNANCY**, **CONCEALMENT OF: INFANTICIDE**.

CONCEDE, v. *kõn-sēd'* [F. *concéder*, to concede—from L. *concēdērē*, to depart, to yield—from *con*, *cēdērē*, to yield: It. *concedere*]: to yield; to admit as true, just, or proper; to surrender. **CONCE'DING**, imp. **CONCE'DED**, pp.—**SYN.** of 'concede': to cede; yield; grant; allow; admit; surrender; give up.

CONCEIT, n. *kõn-sēt'* [It. *concetto*; F. *concept*, an imagination, anything conceived: L. *conceptus*, perceived, conceived]: an opinion; a pleasant fancy; an affected expression or forced allusion, often ingenious and curious, often absurd, marring much literary work in the 16th c. and 17th c., as in the verses of Donne and Cowley: an imagination of one's own importance. **CONCEIT'ED**, a. vain; full of self-esteem. **CONCEIT'EDLY**, ad. *-lī*. **CONCEIT'EDNESS**, n. vanity; the state of being filled with too high an opinion of self. **OUT OF CONCEIT WITH**, no longer pleased and delighted with. **CONCEIT'**, v. in *OE.*, to imagine; to think; to believe. **CONCEIT'ING**, imp. **CONCEIT'ED**, pp.—**SYN.** of 'conceit': thought; image; conception; notion: fancy; freak; opinion; estimation; vanity; pride;—of 'conceited': vain; proud; egotistical; opinionated; fanciful.

CONCEIVE, v. *kõn-sēv'* [F. *concevoir*, to conceive—from L. *concipērē*, to conceive]: to form in the mind; to imagine; to understand or comprehend; to think; to receive into the womb; to breed. **CONCEIV'ING**, imp. **CONCEIVED'**, pp. *-sēvd'*. **CONCEIV'ER**, n. one who. **CONCEIV'ABLE**, a. *-ā-bl*, that may be understood or believed. **CONCEIV'ABLY**, ad. *-blī*. **CONCEIV'ABILITY**, n. *-bīl'ī-tī*, capability of being conceived. **CONCEIV'ABLENESS**, n. *-bl nēs*, the quality of being conceivable.—**SYN.** of 'conceive': to apprehend; suppose; imagine; presume; assume; understand; comprehend; think; believe; devise; breed;—of 'conception': fancy; idea; imagination; notion; conception.

CONCENTAINA, *kon-thēn-tī'ná*: town of Valencia, Spain, picturesquely situated on a slope of the Sierra

CONCENTRATE—CONCEPT.

Mariola, 28 m. n. of Alicante. It is surrounded by old walls, flanked with towers; has some interesting old buildings; and manufactures of linen, woolen, paper, soap, etc. The fair annually held here is one of the largest in Spain. Pop. 8,100.

CONCENTRATE, v. *kõn-sẽn'trāt* [F. *concentrer*, to meet in one centre—from L. and It. *concentrārē*—from L. *con*, *centrum*, the middle point]: to bring to one point; to bring to a common centre; to cause to come nearer to a common point or centre; to drive or bring into a narrow compass; to consolidate; to condense or make stronger, as by evaporating a solution. **CONCEN'TRATING**, imp. **CONCEN'TRATED**, pp. **CON'CEN'TRA'TION**, n. *-trā'shũn*, the act of bringing nearer together; collection into one point or centre; the act of reducing to a smaller bulk. **CONCEN'TRATIVE**, a. *-tīv*, tending to condense or hold together. **CONCEN'TRATIVENESS**, n. in *phren.*, one of the organs of the brain. **CONCENTRATOR**, *kõn'sẽn-trā-tér*: one who or that which concentrates; an apparatus for the separation of dry, comminuted ore, according to the gravity of its particles, by exposing a falling sheet of ore-dust to intermittent puffs of air. **CONCENTRE**, v. *kõn-sẽn'tér*, to come to a point; to bring to a centre. **CONCENTRING**, imp. *kõn-sẽn'trĩng*. **CONCENTRED**, pp. *kõn-sẽn'térd*. **CONCEN'TRIC**, or **CONCEN'TRICAL**, a. *-trĩk*, or *-trĩ-kāl*, having a common centre but with radii of differing length—as circles or circular layers within each other. **CON'CEN'TRIC'ITY**, n. *-trĩs'ĩ-tĩ*. **CONCEN'TRIC OPERCULUM**, an operculum (q.v.) which increases equally all round, and has its nucleus central or sub-central. Examples—*Paludina* and *Ampularia*.

CONCEPCION, *kõn-sẻp'shũn*, Sp. *kõn-thẻp-thẻ-õn'*: bay of the Pacific Ocean which forms the harbor of the city of C. It affords good anchorage, communicating with the interior by the Biobio river, and sheltered from the open sea by the island of Quiriquino.

CONCEPCION: province in Chili, occupying the entire breadth between the Andes and the coast; 3,535 sq. m.; bounded on the s. by independent Araucania. Pop. (1882) 170,385; (1895) 188,190.

CONCEPCION: city near the mouth of the Biobio, principal river of the republic of Chili; lat. 36° 50' s., and long. 73° 5' w. It is the cap. of the province of Concepcion. In 1835, the place was almost destroyed by an earthquake, the cathedral and most of the other public buildings having been thrown down. The city is nevertheless one of the most regular and handsome in the republic. The cathedral and several of the other public buildings are noteworthy. The industry of the place is chiefly in the hands of foreigners, especially Germans. The discovery in 1852 of coal fields a little s. of C., has done much to forward the prosperity of the city. Talcahuano, the port of C., is the safest and best harbor in Chili, and ranks next to Valparaiso as a mart of foreign trade. Hides and tallow are exported. Pop. (1901) 49,727.

CONCEPT, n. *kõn'sẻpt* [L. *conceptum*, the thing con-

CONCEPTACLE—CONCERN.

ceived (see CONCEIT)]: object conceived by the mind; mental representation. CONCEPTIVE, a. -sěp'tiv, capable of conceiving; active in conceiving. CONCEPTUALISM, n. -tū-āl-izm, in *mental phil.*, the doctrine that conceptions are the only universals; a philosophical theory that seeks position intermediate between realism and nominalism—teaching that the mind has power to form for itself general conceptions of single objects: see NOMINALISM: IDEA. PERCEPTION. CONCEPTUALIST, n. -ā-líst, one who maintains that conceptions are the only universals. CONCEPTION, n. -sěp'shūn [F. *conception*—from L. *conceptiōnem*]: the act of conceiving or being conceived; image or idea in the mind; the thing conceived; purpose; view, sentiment, or thought. *Note.*—CONCEPT, the grasp of an object as the synthesis of all its constituent attributes or properties. CONCEPTION, the act of the understanding bringing any given object or impression into the same class with any number of other objects or impressions, by means of some character or characters common to them all.

CONCEPTACLE, n. kǒn sěp'tā-kl, or CONCEPTACULUM, n. kǒn'sěp-tāk'ū-lūm [L. *conceptac'ulūm*, that which serves for receiving—from *conceptum*, the thing received]: that in which anything is contained; in *bot.*, a hollow sac containing a tuft or cluster of spores.

CONCEPTION, n. kǒn-sěp'shūn: see under CONCEPT.

CONCEPTION, IMMACULATE: see IMMACULATE CONCEPTION.

CONCEPTION OF OUR LADY: order of nuns, founded 1484, in honor of the immaculate conception, by Beatrix de Sylva, sister of James, first Count of Poralegro, in Portugal. It was confirmed 1489 by Pope Innocent VIII., who granted the sisterhood permission to follow the rule of the Cistercians; but after the death of the foundress, 1489, Cardinal Ximenes put the nuns under the direction of the Franciscans, and imposed on them the rule of St. Clara. The order subsequently spread into Italy and France. Besides the grand office of the Franciscans, the nuns recite on Sundays and holidays a lesser office, called the office of the Conception of the Holy Virgin. Their dress consists of a white gown, a blue mantle, and a scapulary, on which is worn the image of the Virgin.

CONCERN, n. kǒn-sěrn' [F. *concerner*—from L. *concernēre*, to concern—from L. *con*, *cernēre*, to see, to separate]: that which relates or belongs to one; business, interest, or affair; anxiety; careful regard; a business or those connected with it: V. to relate or belong to; to interest or affect; to be of importance to; to take an interest in; to disturb or be disturbed, as I am much concerned about him. CONCERN'ING, imp. CONCERNED', pp. -sěrnd'. CONCERN'MENT, n. in *OE.*, a matter in which we are interested; influence; interposition; emotion of mind. CONCERN'EDLY, ad. -ěd-lǐ. CONCERN'ING, prep. in regard to; about; relating to. CONCERN'INGS, n. plu. in *OE.*, important affairs; business.—SYN. of 'concern, n.': business;

CONCERT—CONCERTO.

affair; care; anxiety; solicitude; interest; regard; moment; firm or company.

CONCERT, v. *kõn-sért'* [F. *concert*, concert, 'agreement—from It. *concerto*: L. *consertus*, joined together, to compose, to connect—from *con*, *sertus*, joined together, interwoven]: to contrive and settle by mutual agreement; to strive in union for a common purpose. **CONCERT'ING**, imp. **CONCERT'ED**, pp.: **ADJ.** planned by persons acting in union. **CONCERT**, n. *kõn'sért*, the union of two or more in effecting a common design or plan; agreement in a scheme; a number of performers playing or singing the same piece of music in harmony; a musical entertainment; among the earliest series of such entertainments, still continued, are the Gewandhaus Concerts, Leipsic, established 1742, and the Concerts Spirituels, Paris, 1725. **CONCERT-PITCH**, the pitch to which a piano or other instrument is tuned for performance along with others; standard pitch. **CONCER'TO**, n. [It.]: a musical composition written for one principal instrument, with accompaniments for a full orchestra. **CONCERTANTE**, n. and a. *kõn-sér-tán'tā* [It.]: a term applied in the 18th c. to compositions for the orchestra in which there were special parts for solo instruments and occasionally to compositions for solo instruments without the orchestra. It is now generally used as an adjective indicating certain prominent solo parts in an orchestral composition, which are spoken of as 'concertante parts.' **CONCERTINA**, n. *kõn'sér-tē'nā*, a musical instrument, so called from the harmonious richness of its tones, or from having a double set of reeds: the sounds are produced by free vibrating springs of metal; the scale is very complete and extensive, beginning with the lowest note of the violin, G, and ascending chromatically for three-and-a-half octaves to C. Violin music can be performed on it with good effect. Every sound in the scale is double, and can be produced either by pulling the bellows open, or by pressing them together. Wheatstone of London is the inventor. —**SYN.** of 'concert, n.': harmony; union; concord; agreement;—of 'concert, v.': to contrive; plan; manage; devise; settle.

CONCERTO, *kon-sér'to*: musical composition for a solo instrument, with orchestral accompaniments, calculated to give opportunity for highest mechanical skill and cultivation. The C. consists of three movements, each of which, like the whole, has a certain character, and like the symphony or the sonata, requires a clear development and treatment of the motives, and a strict adherence to the rules of form. When the form is in any way abridged, it is called a *concertino*. From the beginning of the last c. to the present time, the pianoforte and the violin are the solo instruments mostly used for the concerto. The oldest violin concertos are those by Tartini and his scholars. The French and Germans improved on these, and fixed the forms, which all the great masters of modern times have adhered to. Innumerable concertos have been written for the pianoforte, among which are many most masterly com-

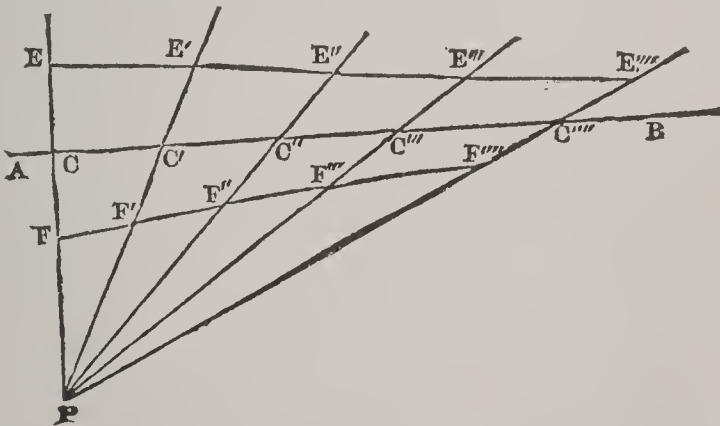
CONCESSION—CONCHOIDAL.

positions. Concertos for wind instruments have been less regarded, and are generally written by the performers themselves, and seldom deserve to be called classical works.

CONCESSION, n. *kǒn-sěsh'ün* [F. *concession*—from L. *concessiōnem*, an allowing, a granting—from *con*, *cessus*, yielded: It. *concessione*]. the act of yielding or conceding; the thing yielded; certain foreign rights and privileges granted by a government to a company on certain specific conditions, as, to construct a railway, granting a tract of land, etc.; acknowledgment by way of apology. **CONCES'SIONARY**, a. *-ēr'ī*, giving way to by indulgence; yielding: N. one who has received or holds a concession. **CONCES'SIONIST**, n. one favorable to concession. **CONCES'SIVE**, a. *-sēs'siv*, implying concession. **CONCES'SIVELY**, ad. *-siv-lǐ*. **CONCES'SORY**, a. *-sēr-ī*, conceding; yielding.

CONCH, n. *kǒngk* [L. *concha*, a shell: Gr. *kongchē*: It. *conca*: F. *conque*]: a sea-shell. **CONCH SHELL**, a large turbinated univalve that can be used as a trumpet; in some Pacific Islands the shell is a common musical instrument. **CONCHA**, n. *kǒng'kǎ*, the external ear by which sounds are collected and transmitted to the internal ear; in *arch.*, an apse. **CONCHIFER**, n. *kǒng'kǐ-fēr* [L. *fero*, I bear or carry]: an animal covered with a shell; a bivalve. **CONCHIFERA**, n. plu. *kǒng-kǐf'ēr-ǎ*, or **CON'CHIFERS**, n. plu. the class of bivalve shell-fish in Lamarck's arrangement of mollusks, including the oyster, the mussel, the cockle, and the scallop; the class contains *Lamellibranchiata* (q.v.) and *Brachiopoda* (q.v.). **CONCHIF'EROUS**, a. *-ūs*, producing or having shells. **CON'CHIFORM**, a. *-fawrm* [L. *forma*, shape]: having the shape of a shell. **CONCHITE**, n. *kǒng'kīt*, a fossil shell. **CONCHIT'IC**, a. *-kīt'ik*, composed of shells; containing shells in abundance. **CONCHO-SPIRAL**, a kind of spiral curve as seen in shells.

CONCHOIDAL, a. *kǒng-koy'dǎl* [Gr. *kongchē*, a shell; *eidos*, form]: shell-like—applied to that peculiar fracture of rocks and minerals which exhibits concave and convex surfaces, and so bearing a resemblance to shells. **CONCHOID**,



n. *kǒng'koyd*, a mathematical curve of a shell-like form, invented by Nicomedes, with the view of trisecting an angle, of constructing two geometrical means between two

CONCHOLOGY—CONCHOS.

given straight lines, and of 'doubling the cube. It is generated as follows: Let AB be any straight line, and P any point not upon it; then let a succession of lines FE, PE', etc., be drawn, cutting AB in points C, C', and let CE, CF be laid off from the points of intersection, each equal to a given line: then the curves traced by the successive points E and F form the conchoid. That branch which is above AB, and described by successive points E, E', is called the first or superior conchoid, and the other branch traced by points F, F', is called the second or inferior conchoid. Both branches are infinite in extent, and they have the line AB for a common asymptote. AB is also called the directrix, and P, the pole of the curve. The constant distance CE, of the points E and F, from the points of intersection is sometimes called the modulus of the curve. If we take C in the line EP as origin, and the lines AB and EP, at right angles to one another, as axes, the equation to the C. is $x^2 = \frac{(b+y)^2(a^2-y^2)}{y^2}$, where a is the modulus of the curve, and b = the perpendicular distance of P from AB. The curve may easily be described mechanically, and is frequently used in architecture as a bounding line of the vertical section of columns.

CONCHOLOGY, n. *kǒng-kǒl'ǒ-jǐ* [Gr. *kongchē*, a shell; *logos*, a discourse]: the natural history of shells and their inhabitants. **CONCHOL'OGIST**, n. *ǒ-jǐst*, one who. **CON'CHOLOG'ICAL**, a. *-kǒ-lǒj'ǐ-kǎl*, pertaining to.

CONCHOL'OGY: science which treats of shells and of the animals inhabiting them. C., as a science, is at least as old as the days of Aristotle; the study of it was resumed with that of the other sciences, when the dark ages had passed away; but since the beginning of the present c., it has given place to a more extended and comprehensive study of molluscous animals, now sometimes designated **MALACOLOGY**; the presence or absence of a shell having been found not to constitute one of the most important characters which distinguish different classes of mollusks. C., indeed, was only the form of the science suited to a time when the shell was more considered than its inhabitant. Yet the relations between shells and the mollusks which possess them are such, that the labors of the merest conchologists have contributed to the real advancement of science, both zoological and geological. It is upon the knowledge of these relations that many of the conclusions of the geologist are founded. In systems of C., shells were usually divided into three orders, *Univalves*, *Bivalves*, and *Multivalves*, according to the number of pieces—one, two, or more—of which they are composed. The first two were established by Aristotle, the third was added in modern times.

CONCHOMETER n. *kǒng-kǒm'ě-tēr* [Gr. *kongchē*, a shell; *metron*, a measure]: an instrument for measuring the angle of the spires of shells.

CONCHOS, *kǒn'chōs* (or **CONCHAS**, *kǒn'chás*), **RIVER**: afflu-

CONCIERGE—CONCLUDE.

ent of the Rio Grande flowing through the states of Durango and Chihuahua, Mexico, in a n.n.e. direction; length about 330 m. The richest soil and the best cultivated and most populous section of Chihuahua are in its valley.

CONCIERGE, n. *kǒng'sǐ-érj'* [F.]: a housekeeper; a door-porter; keeper of a prison or a palace.

CONCILIAR, a. *kǒn-sǐl'ǐ-ér* [L. *conciliārum*, an assembly for consultation, a council]: pertaining to a council. CONCIL'IARY, a. *-ér-ǐ*, promulgated or approved by a council.

CONCILIATE, v. *kǒn-sǐl'ǐ-āt* [L. *conciliātus*, joined together, united, conciliated: It. *conciliare*: F. *concilier*]: to win or gain, as the affections or goodwill; to reconcile or bring to a state of friendship persons or parties formerly at enmity or variance. CONCIL'IATING, imp. CONCIL'IATED, pp. CONCIL'IA'TOR, n. *-tér*, one who. CONCIL'IA'TION, n. *-ā'shǔn* [F.—L.]: the act of gaining back favor, esteem, or affection. CONCIL'IATORY, a. *-tér-ǐ*, tending to conciliate.

CONCISE, a. *kǒn-sīs'* [F. *concis*, concise—from L. *concisus*, cut to pieces, cut down, brief—from *con*, *cædo*, I cut—*lit.*, cut down]: brief; short; comprehensive; containing few words. CONCISE'LY, ad. *-lǐ*, in few words; shortly. CONCISE'NESS, n. brevity in speaking or writing. CON-CIS'ION, n. *-sǐzh'ǔn* [F.—L.]: a cutting of or down; the Jews in the N. T. who adhered to the rites of the law only, and had no circumcision of heart.—SYN. of 'concise': succinct; condensed; laconic; terse; compendious; brief; summary; comprehensive.

CONCLAVE, n. *kǒn'klāv* [F. *conclave*—from It. *conclave*—from L. *conclāvē*, a room, a chamber—from *con*, *clāvis*, a key—*lit.*, a room locked up]: the meeting of cardinals for the election of a pope; the place where the meeting is held; any close assembly. The practice of a C. at a pontifical election originated at the election of Gregory X. at Viterbo, 1271, and was regulated by the Council of Lyon 1274, with formalities still substantially in force. The C. must consist of a single apartment, having only one door, which is kept securely locked. Food and other necessities are handed through a window, and are subjected to a rigorous examination, in order to prevent communication with the outer world; the cardinals not being allowed to leave the place, or to receive or send out letters, until a new pope is chosen. As the C. was generally held in the Pauline Chapel at Rome, a number of little cells were erected in one of the galleries, each to form the lodgment of a cardinal.

A *Conclavist* is a spiritual or secular attendant on the cardinals during the C. Each cardinal is allowed three. They are sworn to silence, and are not allowed to leave, except in dangerous illness. Formerly, a sum of 10,000 crowns was divided among the conclavists at each election.

CONCLUDE, v. *kǒn-klód'* [L. *conclu'dērē*, to shut up: *conclusus*, shut up—from *con*, *claudo*, I shut: It. *concludere*;

CONCOCT—CONCORD.

F. *conclure*]: to shut up or inclose; to infer; to decide or determine; to close or finish; to end; to form an opinion. **CONCLU'DING**, imp.: **ADJ.** final; closing. **CONCLU'DED**, pp. **CONCLU'SION**, n. -*kłó'zhŭn*, end; close; inference or consequence; final determination or judgment. **CONCLU'SIONAL**, a. -*kłó'shŭn-ăl*, by way of a conclusion. **CONCLU'SIVE**, a. -*zŭv*, final; decisive. **CONCLU'SIVELY**, ad. -*lŭ*. **CONCLU'SIVENESS**, n. the quality of being decisive.—**SYN.** of 'conclude': to finish; close; complete; end; terminate; infer; decide; determine; include; comprehend;—of 'conclusion': close; inference; deduction; end; consequence; induction; decision; determination; cessation; extremity;—of 'conclusive': final; decisive; ultimate.

CONCOCT, v. *kŏn-kŏkt'* [*L. concoctiōnem*, digestion—from *con*, *coctus*, prepared by fire, cooked]: to digest as food in the stomach; to purify; to refine; to ripen; to form and mature in the mind; to plan or devise, as a scheme. **CONCOC'TING**, imp. **CONCOC'TED**, pp. **CONCOC'TION**, n. -*kŏk'-shŭn*, the change which food undergoes in the stomach; maturation by heat; the process of purifying. **CONCOC'TER**, n. one who plans. **CONCOC'TIVE**, a. -*tŭv*, having the power of digesting.—**SYN.** of 'concoct': to digest; mature; perfect; ripen; plan; plot; scheme; contrive.

CONCOLOR, a. *kŏn kŭl'ér*, or **CONCOL'OROUS**, a. -*ér-ŭs*, or **CONCOL'ORATE**, a. -*ér-ăt* [*con*, and *color*, which see]: of the same or similar color; without variety.

CONCOMITANT, a. *kŏn-kŏm'ŭ-tănt* [*F. concomitant*—from *L. concomitantem*, attending—from *con*, *comitans*, following, attending: *It. concomitante*]: coming and going with as attendants; conjoined with; accompanying; attending: **N.** an attendant; that which accompanies; a natural consequence or accompaniment of anything; in *OE.*, a person or thing collaterally connected. **CONCOM'ITANTLY**, ad. -*lŭ*. **CONCOM'ITANCE**, n. -*ŭ-tăns* [*F.—L.*]: also **CONCOM'ITANCY**, n. -*tăn-sŭ*, the being conjoined with or accompanying another thing. **SACRAMENTAL CONCOMITANCE**, in the Rom. Cath. Church, the doctrine that, sacramentally, the body and the blood of Christ accompany each other, so that under the form either of the bread or of the wine alone, both are received.

CONCORD, n. *kŏng'kawrd* [*F. concorde*—from *L. concordia*, agreement—from *con*, *cordem*, the heart: *It. concordia*]: agreement between persons or things; harmony; union; peace; agreement or proper relation of words in a sentence; harmony of two or more sounds in music. **CONCORDANCE**, n. *kŏn-kŏr'dăns* [*F.—L.*]: an index or dictionary of the words and phrases, and sometimes of passages, of the *Scriptures*, with the book, chap., and verse in which they occur; a similar verbal index of any other book. **CONCOR'DANT**, a. [*F.—L.*]: agreeing; corresponding. **CONCOR'DANTLY**, ad. -*lŭ*. **CONCOR'DANCY**, n. -*dăn sŭ*. **CONCORDAT**, n. *kŏn-kŏr'dăt* [*F.—from It. concordato*, a convention—from *L. concordare*, to agree together]: a treaty or compact between a sovereign and the pope on religious questions.—

CONCORD.

SYN. of 'concord': harmony; consonance; unison; concert; union; agreement.

CONCORD, *kõng'kèrd*: town of Middlesex co., Mass., on the C. river, 20 m. n.w. of Boston. It was incorporated 1635; was the seat of the first provincial congress of Mass. 1774-5; the depository of the military stores of the colony; and the scene of a fatal engagement between a small body of local militia and a body of British troops sent from Boston to seize the stores, 1775, Apr. 19. This fight, which occurred on the n. bridge, is historically regarded as the real beginning of the revolutionary war, and resulted in the retreat of the British. C. has a national bank, a public library, a high school, the new state prison, and three churches. The chief industries are the manufacture of wooden ware and cotton and woolen flannels. It has a delightful rural character, and has gained celebrity as a centre of literature and philosophy, being the home of the Alcotts, Emerson, Hawthorne, Thoreau, and other persons famed in the literary world. Pop. (1870) 2,412; (1880) 3,922; (1890) 4,427; (1900) 5,652.

CONCORD: city, cap. of Merrimac co. and of the state of New Hampshire, on the Merrimac river, 18 m. n. of Manchester, 75 m. by rail n.n.w. of Boston, 474 m. n.n.e. of Washington, 130 m. s. of Mt. Washington, and 30 m. s. of Winnipiseogee Lake; lat. 43° 13' n.; long. 71° 29' w.; extends over two m. along the river. It was settled 1725, incorporated under the name of Rumford 1733, under its present name 1765, and made a city 1853; and was originally the seat of the Penacook Indians. The main part of C. is on the w. side of the Merrimac river. It is one of the largest railroad centres in New England, the C., the C. and Claremont, the Northern, and the Boston C. and Montreal roads having stations there. Its industries are many and varied, the principal being the quarrying and dressing of the fine-grained white granite from quarries in the vicinity, and of marble, and the manufacture of carriages, furniture, cotton and woolen goods, machinery, leather-belted, organs, and flour. C. is an attractive city, and pleasantly situated. It contains the state house, built 1816, enlarged 1866, the state asylum for the insane, the new state prison, a court house and city hall, a U. S. govt. building, opera house, orphans' home, a number of public halls, and seventeen churches in which the leading denominations are represented. It has also several graded schools, a high school, a Prot. Episc. training school for boys, a public library, three national and four savings banks, one daily and three weekly newspapers, and an admirable water supply and sewage system. Valuation (1902) \$11,394,218. Pop. (1870) 12,241; (1880) 13,843; (1890) 17,004; (1900) 19,632.

CONCORD, in Music: defined by English writers as the relation, harmony, or agreement between two or more consonant sounds; such as the union of the major or minor third with the perfect fifth and octave. The German musical technology gives a wider meaning to this term,

CONCORD—CONCORDANCE.

defining C. as every simultaneous sounding of tones, whether in single intervals or in complete chords, and whether consonant or dissonant.

CONCORD, Book of: standard of doctrine adopted by the civil and ecclesiastical authorities of Saxony at Torgau 1576, imposed upon the churches as a form of communion, and generally accepted by Lutherans. It was composed by order of Augustus, elector of Saxony, with the double view of stating the form of doctrine to be received and of terminating the religious troubles of the time, and its preparation and publication cost him \$53,000. Twelve eminent divines were invited to Lichtenburg, who in an assembly afterward convoked at Torgau examined and considered the principal points and finished the work in Kloster-Bergen, after which followed the solemn signing by the several electors, princes, counts, and representatives of the states of the empire, and the printed publication of the work, 1580. This is in two divisions, Confessions and Formula. The former embraces the Apostles', Nicene, and Athanasian creeds, the Augsburg Confession, Apology of the Confession, the Schmalcald Articles, and Luther's two catechisms; and the latter has for its topics the Rule of Faith and the Creed, Original Sin, Free-will, Justification, Good Works, the Law and the Gospel, Third Use of the Law, the Lord's Supper, the Person of Christ, the Descent into Hell, Ceremonies, the Adiaphora, Predestination, and a treatise on sects and heresies.

CONCORDANCE: book arranged in alphabetical order, and showing in how many passages all, or at least all the more important words in any work occur. For writings of universal import, from which passages are continually being adduced to prove or support principles affecting our daily life and action, such a hand-book is indispensable. The necessity of a C. for the Bible seems to have been felt at an early period. The first was executed by Antonius of Padua (b. 1195, d. 1231), who published it under the title *Concordantiæ Morales*. He was followed by Hugo de St. Caro (1244) and others, all of whom based their labors on the Latin Vulgate. A Greek C. by Euthalios of Rhodes was prepared about 1300, but has been lost. The Alexandrine C. of the Old Testament was compiled by Conrad Kircher in the 16th c., and Xistus Vetuleius published, 1546, a C. of the Greek New Testament, which was republished and amended by Stephens 1600. In Hebrew, a C. was drawn up by Rabbi Isaac Nathan 1438, amended by Marius of Calassio (Rome 1620), by John Buxtorf (1632), and by Fürst (Leip. 1837-41). The chief concordances for Luther's translation of the Bible are those of Lankisch, Büchner, Wichmann, and Schott. For the authorized English version of the Bible, the C. for a long time the best was compiled by Alexander Cruden, (published 1737; numerous editions since). It was far surpassed by the publication 1879 of the *Analytical Concordance to the Bible*, by Robert Young, L.L.D., of Edinburgh. There is a C. to the Psalter in the Book of Common Prayer.

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er, and to the Christian Year. Crutwell's *C. of Parallels* dates from 1790. The *Complete Concordance to Shakespeare*, compiled by Mrs. Cowden Clarke (1845), is invaluable. There is a C. to Pope; also to Tennyson. Noticeable also is *A Concise Poetical Concordance to the Principal Poets of the World*, compiled by Chas. A. Durfee (John B. Alden, N. Y. 1885); embracing titles, first lines, characters, subjects, and quotations.

CONCORDAT: compact or treaty; sometimes used of purely secular treaties, but now designating almost exclusively a compact on ecclesiastical affairs between the pope, as head of the Rom. Cath. Church, and the temporal ruler of a kingdom or state. Concordats commonly relate to things neither purely spiritual, as faith, the sacraments, or worship; nor purely temporal, as civil rights, taxation, etc.; but to matters which are mixed, regarding which, each power makes certain claims, in regard of which the action of the two powers can with difficulty be dissociated; and in which, therefore, in the hope of harmonious co-operation for the public good, each is willing to cede to the other a portion of its peculiar claim. Concordats are of two kinds—the first in the form of a treaty, to which both the contracting powers are formally consenting parties; the second, in which the terms are concerted by both, or, at least, are mutually accepted, but are published only by one, usually by the pope, in the form of a bull, reciting the enactments which result from the agreement. This difference is only in form. In both, it is a settled doctrine of Rom. Cath. canonists, and especially of those of the ultramontane (q.v.) school, that the pope never absolutely cedes purely spiritual powers. Thus, in the presentation to bishoprics, while the king 'nominated' or 'elected,' the pope always reserved to himself the power of 'canonical institution.'

Following is a brief enumeration of the most important concordats: (1) *Concordats with Germany*.—The earliest subject of negotiation between church and state in Germany was the mode of electing the popes, to which subject may be referred the compact of Otho I. with John XII., and the constitution of Leo VIII.; but the well-known C. of Worms, 1123, regarding investitures, is commonly regarded as the first, strictly so called. Similar agreements took place on the question of the *Regalia* (q.v.) between the Roman see and the emperors Otho IV., Frederic II., and Rudolph of Hapsburg. A more comprehensive compact on church matters is that of which the foundation was laid at Constance, 1418, and which was subsequently modified by the 'Frankfort' or 'Princes' Concordat,' by the C. of Aschaffenburg, and by that of Vienna; which last, though practically disregarded by Joseph II. and Leopold, continued in use till the suppression of the emperor of Germany 1803. Its place was supplied, under Pius VII. and his immediate successors, by separate concordats with Bavaria, 1817; Prussia, 1821; Baden, Württemberg, and other minor states, 1818; Hanover, 1824; Saxony, 1827; and the Netherlands, in the same

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year. The last German C. was that concluded at Vienna, 1855, August 18. The chief articles were that the pope should have direct communication with the bishops, clergy, and people; and archbishops and bishops with their clergy and their flocks, and the right to govern their sees according to the canonical law. Education was placed entirely under the control of the church. The bishops were to settle what books should be used. The chief inspector of schools was to be chosen by the emperor from among the individuals selected by the bishops. The government bound itself to prevent the dissemination of books pointed out as dangerous to religion by the bishops or archbishops. All questions of marriage, except so far as they might involve civil consequences, were reserved exclusively to the ecclesiastical courts. Priests guilty of crimes were to be tried in the temporal courts; but the bishop was to be duly notified of the fact, and convicted priests were to be imprisoned apart in a monastery or other ecclesiastical building. The emperor was to choose bishops, but with the advice of the existing bishops and archbishops. The church might acquire new property; but once acquired, it should not be sold or mortgaged without the consent of both pope and emperor. This C. was set aside, 1868, in all the dominions of the emperor of Austria. (2) *With France*.—The Pragmatic Sanction ascribed to St. Louis, but really of later date, has some of the characteristics of a C.; but the first proper concordat is that of Francis I. with Leo X., 1515 and 16, which continued in force, though with more than one conflict of the two powers, till the Revolution. In re-establishing the church in France, Napoleon Bonaparte, as first consul, concluded with Pius VII., through the agency of Cardinal Consalvi, the celebrated C. of 1801; which he afterward compelled the pope, then a captive at Fontainebleau, to modify by a new act, 1814. Both were ignored at the Restoration; but an attempt to produce a substitute, 1817, and again, 1819, led to no practical change. (3) *With Italy*.—In Italy, an agreement regulating the election of bishops was concluded with Nice and Savoy by Nicholas V., 1451; and a formal C. was made with Sardinia by Benedict XIV., 1740. The ecclesiastical affairs of Naples were anciently regulated by the terms of what was called the *Monarchia Sicula*; but a formal C. was concluded with Charles III. by the same pope, 1741, and a new C. was made by Pius VII., 1818. (4) *With Spain*.—Charles V. concluded a C. for his Spanish kingdom with Adrian VI. and Clement VII.; and a further C. was made by Clement XII. and Philip V., 1737. (5) *With Portugal*.—Benedict XIV. made a C. with Portugal, 1741.

CONCORDIA, *kon-kawr'di-a*: Roman goddess, worshipped chiefly that peace might be preserved in families. On the coin and medals of the emperors, C. was represented holding a cup with one hand and a cornucopia with the other; on those of Marc Antony, she was represented beneath the emblem of two serpents tied together, and rising up in the figure of a bow, to compass an altar on which

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lay the head of Augustus; and on those of Cæsar Augustus, she appeared holding a horn of plenty with one hand, and presenting fruits with the other to Lepidus, Antony, and the younger Cæsar, triumvirs. Temples were raised in her honor on the declivity of the Capitol at Rome, in the portico of Livia, and on Mt. Palatine; the latter was built of brass by Cn. Flavius, on account of a vow made to C., for reconciling the senate and people. The crow was consecrated to her.

CONCOURSE, n. *kǒng'kōrs* [F. *concourse*—from L. *concursum*, a meeting together—from *con*, *cursus*, run: It. *concorso*]: a running together; confluence; an assembly of men or things.

CONCRESCENCE, n. *kǒn-krēs'ēns* [L. *concrescen'tem*, growing strong—from *con*, *cresco*, I grow]: growth or increase; the act of growing by the union or agglutination of separate particles. **CONCRESCIBLE**, a. *sǐ-bl*, capable of congealing.

CONCRETE, a. *kǒn'krēt* [F. *concret*—from L. *concrētus*, grown together, hardened—from *con*, *crētus*, grown: It. *concreto*]: *literally*, united in growth; formed by massing several things together; having a real existence; material; tangible; not abstract, but applied to a subject,—as *white* or *whiteness*, the abstract—*white sugar*, the concrete (see **ABSTRACTION**): a concrete notion is the notion of an object as it exists in nature, invested with all its qualities, as any particular flower, leaf, or tree; an abstract notion is the notion of any attribute of that flower, leaf, or tree, such as its color, form, or height; qualities which may be thought of independently of the objects in which they inhere, though they cannot so exist.—The abstract method of handling a subject is adapted to speculation and reasoning; the C., to poetic effect and impressive illustration. **CON'CRETE**, n. a compound; a mass formed of lime, sand, pebbles, etc., cemented together: V. *kǒn-krēt'*. to unite or form into one mass; to congeal or grow hard. **CONCRE'TING**, imp. **CONCRE'TED**, pp. **CONCRETE'LY**, ad. *-lī*. **CONCRETE'NESS**, n. state of being concrete. **CONCRE'TION**, n. *-krē'shūn*, the act of growing together; a mass formed by the union of various parts adhering to each other, strictly of concentric layers; a mass formed by the deposition of several layers of matter around an original nucleus or kernel. **CONCRE'TIVE**, a. *-krē'tiv*, causing or tending to concrete. **CONCRE'TIONAL**, a. *-krē'shūn-āl*, or **CONCRE'TIONARY**, a. *-shūn-ēr-ī*, pertaining to; made up of concretions. **CONCRETISM**, n. *kǒn-krē'tizm*, the quality of being concrete. **CONCRETER**, n. *kǒn-krēt'ēr*, in *sugar-boiling*, an apparatus for concentrating syrup, by allowing it to flow in a boiling condition over the surface of a heated pan, and then subjecting it to the heat of a copper cylinder revolving over a fire, and having an internal hotblast. **CONCRE'TIONARY DEPOSITS**, in *geol.*, chemically formed deposits, generally arising from calcareous and silicious springs. **CONCRETE NUMBER**, a number applied to a particular object—as *three* men, *six* months.

CONCRETE—CONCRETION.

CONCRETE: mixture of hydraulic or other mortar with gravel or shingle, which, on hardening, forms an artificial conglomerate. The best C. is made by well mixing hydraulic mortar (see CEMENT) with sand and sufficient water for complete hydration, and then adding the shingle or screened ballast, and mixing them well together. An inferior C. may be made by laying the shingle into the foundation or other place where the C. is required, and then pouring mortar upon it, to fill the interstices between the pebbles.

The principal use of C. is to form a basis of artificial stone for buildings that rest upon loose or damp subsoils. Such a basis, if well made, forms a solid foundation-slab upon which the weight of the whole structure is equally distributed. It also resists the capillary ascent of moisture from the soil, which would otherwise take place through brickwork or porous stone. A very extensive and important application of C. in this manner has been made in the lower part of Pimlico and Thames bank, London. An extensive district, that, only a few years since, was a pestiferous marsh, is now covered with high-class houses, and forms one of the fashionable quarters of the West End of London. The houses, and, in fact, the streets altogether, may be said to rest upon a substratum of artificial rock formed of C., which, besides giving stability to the buildings, shuts out the exhalations from the soil, and prevents the ascent of the moisture so abundant below.

C. is used occasionally for building walls by ramming it into molds, giving it the form desired. A beautiful application of C. for making mosaic floors is common in Italy. A stratum of cement is laid, and the surface carefully levelled; then pebbles of variegated colors are sifted over it; before it is quite hardened, these are beaten down, so as to be embedded in the cement, and form the top layer. When the C. has completely hardened, the rounded surfaces of the pebbles are ground down by means of a large slab of stone, which, together with sharp sand, is rubbed over the surface until it is quite smooth; and thus a variegated pavement is formed by the flattened surfaces of the colored pebbles, and the cement between them.

CONCRETION, in Medicine: formation of solid unorganized masses within the living body, either by chemical precipitation from the fluids, or by the accidental aggregation of solids introduced into the system from without. In the former case, a C. is termed a calculus (q. v.); in the latter, the C. may be either wholly composed of solids foreign to the body, or these may be mingled with the elements of the secretions, as with mucus, or calculous matter. Thus beans, peas, needles, etc., introduced into the cavities of the body, have become the nuclei of concretions, by attracting around them mucus, or crystalline deposits from the urine. The most remarkable forms of C., however, are perhaps those formed in the stomach and intestines of man and the lower animals, from the more solid and indigestible parts of the food, or of substances improperly swallowed. Thus, young women have been known to acquire the habit of

CONCRETIONARY STRUCTURE—CONCREW.

swallowing their own hair to a great extent; and very large concretions have been thus formed, which have proved fatal, by obstructing the passage of food. The annexed cut (fig. 1) shows such a C., retaining exactly the form of the stomach within which it was found. The use of oat-meal in large amount has also been found to lead to con-



Fig. 1.—Mass of hair and string from the stomach of a young girl.
Taken from the *Pathological Society's Report*.

cretions, especially when eaten coarsely ground and un-boiled; such concretions have commonly been found in the intestines (see fig. 2). The excessive domestic use of magnesia, in the solid form, as a laxative, has been known to have a similar effect. In certain animals, intestinal concretions are not uncommon, and grow to an immense size; they used to be greatly prized as antidotes, and were used



Fig. 2.—Section of an alvine or intestinal concretion, formed in successive layers upon a piece of bone.
Taken from Munro's *Anatomy*.

in medicine under the name of bezoars (q.v.). In certain forms of morbid deposits, such as fibrous tumors (see TUMOR), and in tubercle (q.v.), concretions not unfrequently form; they are composed mostly of phosphate of lime.

CONCRE'TIONARY STRUC'TURE: condition in rocks produced by molecular aggregation subsequent to the deposition of the strata, whereby the material of the rock is formed into spherules or balls, as in the grains of oolitic limestone, or the larger concretions of magnesian limestone.

CONCREW, v. *kõn-krô'* [old form of *concrete*]: in *OE.*, to grow together; to concrete. **CONCREW'ING**, imp. **CONCREWED**, pp. *kõn-krôd'*.

CONCUBINE—CONCUR.

CONCUBINE, n. *kǒng'kū-bīn* [F. *concubine*—from L. *concubina*, a concubine—from *con*, *cūbo*, I lie down: It. *concubina*]: a woman who cohabits with a man without being married; an inferior wife. **CONCU'BINAGE**, n. *·bī-nāj*, living together, as man and wife, without marriage. **CONCU'BINAL**, a. *-bī-nāl*, pertaining to. **CONCUBINARY**, n. *kǒn-kū' bī-nēr-ī*, one who lives with a concubine.—The earliest Roman laws were distinguished for the strictness with which they treated marriage. They not only upheld thoroughly the principle of monogamy, but they fettered marriage itself with many burdensome forms. Hence arose the practice of a free unmarried man entering into a less strict relation with a single woman—a sort of permanent cohabitation. The offspring of such a connection, called natural children, had not the rights of legitimate children, but they were recognized by the father. Augustus, with a view to promote regular marriages, and check the growing licentiousness, enacted a comprehensive marriage-law (*Lex Julia et Papia Poppæa*), which still allowed concubinage, but only with women of low rank or who had lost their station. Christianity required the complete sanctity of marriage, and utterly forbade concubinage, although the civil law long continued to tolerate separation at pleasure. In the eastern empire, concubinage was entirely prohibited by the emperor Leo. The ancient laws of the Germans recognized, beside regular marriage, an informal connection of the sexes. In the middle ages, a similar connection became customary, called a 'left-handed,' or Morganatic Marriage (q.v.). The Code Napoleon does not allow concubinage, but the wife can sue for separation only when the husband maintains a mistress in the common dwelling.

CONCUPISCENCE, n. *kǒn-kū'pīs-sēns* [F. *concupiscence*—from L. *concupis'cens*, longing much for—from *con*, *cūpiō*, I desire: It. *concupiscenza*]: desire for unlawful pleasure; lust; lechery. **CONCU'PISCENT**, a. lustful. **CONCUPISCIBLE**, a. *kǒn-kū'pīs-ī-bl*, in OE., irregularly desirous; libidinous.

CONCUR, v. *kǒn-kēr'* [L. *concurrēre*, to run together—from *con*, *curro*, I run: It. *concorrere*: F. *concourir*]: to meet in the same point; to agree or unite in action or opinion; to combine; to coincide. **CONCUR'RING**, imp. **CONCURRED'**, pp. *-kērd'*. **CONCUR'RENT**, a. *-kūr'rēnt*, acting in conjunction; conjoined; united; associated: N. that which concurs; contributory cause. **CONCUR'RENTLY**, ad. *-lī*. **CONCUR'RENCE**, n. *-rēns*, agreement or union in action or opinion; consent. **CONCURRENT ENDOWMENT**, endowment of all religious sects which will accept endowment, so as to make a nearer approach to religious equality than if only one religious denomination were endowed. Politicians sometimes call it 'levelling up,' and oppose it to disestablishment and disendowment, termed 'levelling down.'—**SYN.** of 'concur': to agree; accord; suit; coincide; unite; combine; conspire; approve;—of 'concurrence': union; conjunction; combination; agreement; consent;—of 'concurrent, a.': uniting; meeting; accompanying; united; coincident; agreeing; contributing; co-operating; concomitant.

CONCURRENT JURISDICTION—CONCUSSION.

CONCURRENT JURISDICTION: jurisdiction cumulative, or that may be exercised in the same cause by any one of two or more courts. To prevent the collision which might arise from each of the courts claiming to exercise the right, it has been established as a rule, that the judge who first exercises jurisdiction in the cause acquires a right, *jure præventionis*, to judge in it exclusive of the others. The judge by whose authority an offender is first cited or first apprehended, prevents, and so excludes the other from his right of cognizance. 'This right of prevention plainly appears to be peculiar to criminal jurisdiction. In civil, it is the private pursuer who has the only right of choosing before which of the courts he shall sue.'—*Erskine's Institutes*, b. i. tit. ii. s. 9. Opposed to *concurrent* or *cumulative*, is *privative* jurisdiction. In England, in some cases, which are strictly defined, there is C. J. between the superior and county courts.

CONCUSS, v. *kõn-kũs'* [L. *concussus*, shaken violently—from *con*, *quassus*, shaken—*lit.*, to shake violently]: *figuratively*, to settle or put down by shaking, as a speaker and his expressed opinions; in *Scot.*, to force or compel to receive or accept. **CONCUS'SING**, imp. **CONCUSSED**, pp. *kõn-kũst'*, shaken or driven; compelled to receive. **CONCUSSION**, n. *kõn-kũsh'ũn* [F. *concussion*, concussion—from L. *concussïonem*, a shaking]: a jolting or knocking one against another; the shock caused by two bodies coming into sudden and violent contact; state of being shaken; agitation; in *med.*, a severe injury to some internal organ from a fall or a heavy blow. **CONCUSSION FUSE**: see **FUSE**. —**CONCUSSION SHELL**: see **SHELL**. **CONCUS'SIVE**, a. *-kũs'-sĩv*, having the power or quality of shaking.

CONCUSSION, in Medical Science: sudden violent jolt or shock communicated to the brain or to the whole nervous system, as the result of a severe injury, or of collision of the body with some external object, as in a fall, or in the crash of a railway accident. It is usual to distinguish C. from the more mechanical results of injury, by observing its effect upon the circulation and on the general sensibility; and there can be no doubt that the distinction is well founded, for in the first place death may follow from C. alone, without any appreciable destruction of texture; and 2dly, C. may be followed by recovery within a few hours, leaving the local injury entirely unattended by constitutional disturbance; or recovery may be complete, there having been no local injury at all. Under the immediate shock of injury, the patient is usually unconscious and insensible, pale, cold, sometimes shivering, pulseless, or nearly so, the pupils inclining to contraction rather than dilatation, or in some cases natural; the breathing is irregular, slow, feeble, and sighing; the secretions are suspended the stomach often yields up its contents; and the bowels and bladder may also be evacuated. This state ends either in death, or in gradual reaction, which may pass over into a state of inflammatory fever, with violently excited circulation, and greatly increased heat of the surface. In the

CONDAMINE—CONDÉ.

treatment of C., it is sometimes necessary to have recourse to stimulants; but in general, moderate heat applied to the surface, abundant supplies of fresh air, and careful adjustment of the injured parts, are all that is necessary till consciousness is somewhat restored, and the power of swallowing regained; some warm soup should then be given, with a small allowance of wine or other stimulant, proportioned to the age and habits of the individual; and the effect being carefully watched, this treatment may be continued until restoration is complete. If there be danger of failure of the breathing or heart's action, artificial respiration (see RESPIRATION) should be employed without delay; and the patient should be transferred as soon as possible from the place of the accident to a warm and comfortable bed, where the necessary restoratives may be more conveniently used. The connection of the nervous system with the heart, in cases of C., is a very curious subject in physiology, and has been the subject of minute investigations by Bichat, Legallois, Wilson Philip, Marshall Hall, and many others.

CONDAMINE, LA: see LA CONDAMINE.

CONDÉ: *kōng-dā'*: town in France, dept. of Nord, at the confluence of the Haine and Scheldt, about seven m. n. n. e. of Valenciennes. It has an arsenal and strong fortifications, constructed by Vauban, and was the scene of severe contests in the Napoleonic wars. Here are coal-pits and a great coal depot; and manufactures of starch, chicory, leather, and soap. Pop. (1881) 3,516; (1891) 4,772.

CONDÉ, LOUIS DE BOURBON, Prince DE: 1530, May 7—1569, Mar. 13. He was of a family celebrated in French history, and which takes its name from the town of Condé (q. v.) dept. of Nord. One Godfrey de C., about 1200, was in possession of a part of the barony of Condé: his great-granddaughter, Jeanne of C., married 1335 Jacques de Bourbon, Comte de la Marche, and the barony of C. went to their second son, Louis de Bourbon, Comte de Vendôme. Louis de Bourbon, Prince of C., was the great-grandson of this second son and in virtue of his blood-relationship to the royal family, he assumed the title of Prince, and is regarded as the founder of the new house of this name. He first distinguished himself under Marshal Brissac. In the dissensions between the houses of Guise and Bourbon, C. was the soul of his party, which was for the most part Calvinistic or Huguenot. It was he who directed the conspiracy of Amboise, which had for its aim the banishment of the Guises, and the capture of Francis II. On its discovery, he fled to his brother at Nérac, and there projected a plan, for securing possession of all the large towns of France, which, however, miscarried, and C. himself was taken prisoner, and condemned to death; from which fate he was saved by the opportune death of the king. On the accession of Charles IX. to the throne, C. obtained his liberty and the governorship of Picardy; but the harsh treatment which the Huguenots in general received, drove him into rebellion; and 1562, Apr. 11, he commenced a civil war by the capture of Orleans, Rouen, and other places. Defeated

and taken prisoner at the battle of Dreux, in the same year, he was employed by the victors in concluding a treaty of peace, which lasted only a short time. C. recommenced hostilities, by a daring but unsuccessful attempt to possess himself of the person of his sovereign (1567, Sep. 28). After the battle of St. Denis, 1567, Nov. 10, a second peace was made; but having reason to believe that Catharine de' Medici was plotting against his liberty, he once more renewed the war against the Rom. Cath. party, in the beginning of 1569, but was again defeated and taken prisoner at the battle of Jarnac, Mar. 13. While his wounds were being dressed on the field, a captain of the Swiss guard, named Montesquieu, approached and shot him through the head. C. was of a joyous and amorous disposition. His gallantries were far from being in accordance with the austere character of the religion he professed, and it cannot be doubted that the feeling of political rivalry to the house of Lorraine, which animated the Bourbon family, explains the career of C. quite as much as his religious convictions.

His son, HENRI I. DE BOURBON, Prince de C. (1552-88), escaped the massacre of St. Bartholomew on a promise to renounce Protestantism. Afterward he raised troops and joined the Prot. force. He died from poison.

CONDÉ, LOUIS II. DE BOURBON, Prince DE, commonly termed 'the great Condé': 1621, Sep. 8—1686, Dec. 11; great-grandson of Louis (1530-69). In youth (1640-42), he took part in the sieges of Arras and Perpignan, and commanded the army against the Spaniards in the Netherlands, where he almost extirpated the foe in the battle of Rocroi, 1643, May 19. In the autumn, he was sent to Alsace to support Turenne; and in the engagements 1644, Aug. 3, 5, he defeated the Bavarian general Merey near Freiburg, and so won for France a considerable portion of Germany. By the death of his father, 1646, C. became the head of his family, and next to the Duke of Orleans, was the highest personage in the state. This pre-eminence excited the envy of Cardinal Mazarin, who, however, 1648, intrusted C. with the command of the army in the Netherlands. Here the prince captured Ypres, and gained the battle at Lens, but was called back to Paris by the war of the Fronde (q.v.), which had just broken out. In this contest, C. at first sided with the court, while his brother, Prince of Conti, and his sister, the celebrated Duchess of Longueville, took the part of the *Frondeurs*. After the court had secretly escaped from Paris (1649, Jan. 6), C. concluded a treaty which insured the return of the court to Paris in August. But as this service met no adequate thanks, C., who was the haughtiest Frenchman of his age, soon became more violently rebellious than the Frondeurs themselves, at least in his language and deportment. Cardinal Mazarin consequently arrested C., with his brother and the Duke of Longueville; but was soon compelled to release him, on account of the threatened operations of Turenne and the Fronde. Though C. now enjoyed the favor of the people, his relations with the court were unfriendly even after Mazarin had been banished, and when Louis XIV. as-

CONDEMN—CONDENSE.

sumed the government, 1651. He therefore renewed the war, and is by some supposed to have had the ambitious view of obtaining the supreme power. At the head of troops collected in the Netherlands, he gained the battle of Blenau, 1652, Apr., and immediately marched upon Paris, while Turenne, who had remained steady in his loyalty, advanced to defend the court. A bloody but indecisive struggle took place in the streets of Paris. Many of C.'s ablest adherents, however, were killed, and the Frondeurs began to give in. A treaty was drawn up, to which most of them agreed, but the proud impracticable C. would have nothing to do with it; furious at the defection of so many of his friends, he went into Champagne to gather troops, and after a fruitless effort to seize Paris, he left the country, and on the formal outbreak of war between France and Spain, became generalissimo of the Spanish forces, but was unable to gain the advantage over Turenne. When the peace of the Pyrenees was concluded between France and Spain, it was thought advisable to enter into friendly relations with the brilliant traitor. C. was therefore pardoned, and reinstated in his former honors. The war having been renewed by Spain, 1673, he again commanded the French in the Netherlands. After Turenne's decease, he held the command in Germany, but was ultimately so disabled by gout, that he had to resign his post. He now retired to his estate of Chantilly, where he gave his remaining years to literature (for which, in his early years, he had exhibited a strong predilection), the society of friends, and religious exercises. He died at Fontainebleau. The Prince of C. had a superior intellect and great strength of character, associated with pride. Though an able commander, he was disliked by the soldiers, on account of his severity.—Mahon, *Life of the Great Condé* (1840).

The last prince of the house of Condé was LOUIS HENRI JOSEPH DE BOURBON, 1756–1830, who was wounded at the siege of Gibraltar, 1782, and served in the Condé army in the revolution of 1793: his death was by strangling, supposably suicide.

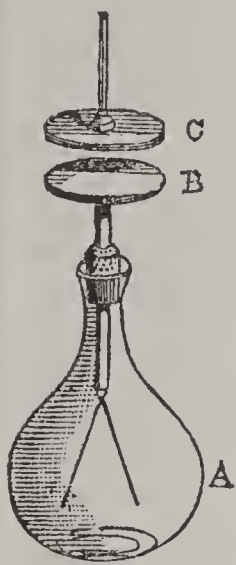
CONDEMN, v. *kõn-děm'* [L. *condemnāre*, to condemn, to blame—from *con*, *dennāre*, to bring damage or loss upon: It. *condennare*: F. *condamner*]: to pronounce guilty, or worthy of punishment; to censure; to blame; to sentence to punishment; to declare to be unfit for use or service. CONDEMN'ING, imp. *-děm'ing*. CONDEMNED', pp. *-děmd'*. CONDEM'NABLE, a. *-nă-bl*, that may be condemned, blamable. CON'DEMNATION, n. *nă'shũn*, the act of condemning; the act of declaring one guilty; the state of being condemned; carrying condemnation; the cause or reason for condemning. CONDEM'NATORY, a. *-nă-těr-ĩ*, tending to, or containing, something worthy of censure. CONDEMNER, n. *kõn-děm'ěr*, one who condemns.—SYN. of 'condemn': to reprove; reproach; upbraid; reprimand; rebuke; chide; animadvert; reprobate; doom; sentence; adjudge.

CONDENSE. v. *kõn-děns'* [F. *condenser*—from L. *con-*

CONDENSER.

densāre, to condense—from *con*, *densus*, close, thick: It. *condensare*]: to make more close, thick, or compact; to make close by pressure; to compress or reduce into a smaller compass; to grow or become thick: ADJ. thick; close. CONDENSING, imp: ADJ. having the power to condense. CONDENSED', pp. -*dēnst'*. CONDENSE'LY, ad. -*lī*. CONDENSITY, n. -*sī-tī*. CONDENSER, n. -*sēr*, he or that which; a vessel for condensing vapor. CONDENSABLE, a. *sā-bl*, capable of being condensed. CONDENSATION, n. *kōn'dēn-sā'shūn*, the act of making more dense or compact; the state of being condensed. CONDENSED MILK, milk reduced greatly in bulk and rendered proportionately denser. Gail Borden, residing in the vicinity of New York, in 1849 invented a process for the condensation of milk, which since 1866 has been extensively used in America and Britain. *Note*.—*Cleanse, dense, condense, dispense, expense, incense, license, manse, prepense, recompense, immense, sense, and tense*, with their derivatives, are nearly all the words which end in *nse*, while there may be about 700 ending in *nce*.—SYN. of 'condense': to contract; compress; crowd; thicken; constipate; compact; consolidate;—of 'condensed': concise; succinct.

CONDENSER: apparatus used in conjunction with an electrometer to increase its sensibility, and render it available for indicating the presence of very feeble electricity. A C. of the simplest form is shown in the accompanying figure. A is a gold-leaf electrometer. The condensing apparatus consists of the two brass plates, B and C, placed horizontally, the lower one being connected with the metal rod to which the gold leaves are attached, and the upper one provided with an insulating glass handle. These plates are accurately ground, the one to the other, so that when placed upon each other, they touch in every part. Their inner surfaces are covered with a very thin and equable layer of shellac. When an observation is made, the excited body is brought into contact with the lower plate, and the finger of the observer is laid upon the upper. This being done for a sufficient time, the finger is first removed, and then the excited body; after which the plate C is lifted by its handle parallel to the other plate, the gold leaves at the same time diverging under the influence of the electricity left in the lower plate. The same observation might have been made with the positions of the finger and the excited body reversed, but the leaves would then be charged with the opposite electricity to that of the excited body. Reverting to the first case, the electricity to be tested is communicated to the lower plate in small successive charges, which, acting through the thin layer of shellac, induce, as in the Leyden jar, a corresponding charge of the opposite electricity on the lower surface of the upper plate, and send the similar electricity of the upper plate



Condenser.

CONDENSING STEAM-ENGINE—CONDESCEND.

through the finger into the ground. Each weak charge of electricity given to the lower plate is not allowed to dissipate, but is kept fixed or bound by the corresponding charge of the opposite electricity which it has induced on the upper plate, so that an accumulation of such charges takes place. As yet, however, there is no excitement visible in the gold leaves, the electricity so condensed in the plate B being capable of acting only in one direction—viz., toward the charge of the upper plate. When, however, the plate C is removed, the collected electricity of the lower plate being no longer restrained to act toward it, immediately extends to the leaves below, and causes a marked divergence. In this manner, electricity of too low a tension to affect immediately the gold leaves can be condensed, so as to possess the power of doing so.

The efficiency of the C. depends upon the accurate grinding of the plates, the thinness and evenness of the layer of shellac with which their inner surfaces are varnished, the size of the plates, and their parallelism on removal. This last is of the utmost importance; and it is found, where numerical results are wanted, that little dependence can be placed on the parallelism attained by the hand. For more accurate observations, the C. is made quite separate from the electrometer. The plates are in this case attached vertically to two wooden pillars, on which they are insulated, and which slide in a horizontal groove made in the sole of the instrument. The plates, thus guided by the grooves, are made to approach and to retire from each other with their faces parallel. In a C. of this description, no shellac varnish is used, the air between the plates acting as the dielectric in its place. When one of the plates is connected with the knob of the electrometer, the observation proceeds as already detailed.

CONDENSING STEAM-ENGINE: see STEAM-ENGINE.

CONDER, n. *kõn'dér* [F. *conduire*, to conduct or guide]: 'he who stands upon a high place near the coast, at the time of herring fishing, to make signs to the fishers which way the shoal passeth, which may better appear to one standing upon a high cliff, by a kind of blue color that the fish causeth in the water, than to those in the ships;' one who gives directions to the helmsman of a ship how to steer.

CONDESCEND, v. *kõn'dě-sěnd'* [F. *condescendre*—from L. *con*, *descendĕre*, to descend: It. *condescendere*]: to stoop or descend; to do some act of courtesy or kindness to an inferior as if an equal; to submit; to yield. CON'DESCEND'ING, imp.: ADJ. affable; courteous. CON'DESCEND'ED, pp. CON'DESCEN'SION, n. *-sěn'shŭn* [L. *con*, *descēnsiōnēm*, a going down, a descending]: a voluntary relinquishment of rank; the act of putting one's self on a level with inferiors; courtesy. CON'DESCENDINGLY, ad. *-lĭ*. CON'DESCEN'DENCE, n. *-děns* [F. *condescendance*—from L. *con*, *descensus*, a descending]: in *Scot. law*, a distinct written statement of the facts in dispute, to be laid before the court; a written pleading.

CONDÉ-SUR-NOIREAU—CONDIMENT.

CONDESCENDENCE AND CLAIM: see MULTIPLEPOINDING.—
SYN. of 'condescend': to submit; yield; stoop; deign; vouchsafe; descend; relinquish.

CONDÉ-SUR-NOIREAU, *kōng-dū'sūr-nwá-rō*: town in France, dept. of Calvados, at the union of the Durance and the Noireau, 25 m. s.s.w. of Caen. It is an old place, with dark heavy houses. Its manufactures are cottons, cutlery, and leather; and it has extensive trade in cattle, honey, etc. Pop. (1881) 6,652; (1891) 6,764.

CONDUCT, *kōn'dīkt*, JOHN: 1755–1834, May 4: surgeon. He served as a surgeon in the army during the revolutionary war; was a member of the N. J. legislature several years; member of congress from that state 1799–1803; U. S. senator 1803–17; and member of congress again 1819–21.

CONDIGN, a. *kōn-dīn'* [F. *condigne*, condign, appropriate—from L. *condignus*, wholly deserving—from L. *con*, *dignus*, worthy]: thoroughly deserved as penalty for a wrong; merited—applied to punishment. CONDIGN'LY, ad. -*lī*, suitably according to deserts; by way of example or warning. CONDIGN'NESS, n. CONDIGN'ITY, n. -*dīg'nī-tī*, merit; desert.

CONDILLAC, *kōng-de-yâk'*, ETIENNE BONNOT DE MABLY DE: 1715–1780, Aug. 3; b. Grenoble: French philosopher. In early youth, his delicate health delayed his education. In 1746, he published his *Essai sur l'Origine des Connaissances Humaines*, a work which derives all thought and knowledge from the exercise of the senses. It was intended to carry out the principles of Locke, which were misunderstood and misrepresented by C. as entirely based on sensationalism. To refute various metaphysical theories, C. wrote a *Traité des Systèmes* (1749). In 1754, appeared his *Traité des Sensations*—a work supplying the details of the sensational theory. C. supposes a statue organized within like a man, but its body—so to speak—being composed of marble, hinders it from possessing any sensibility. C. further supposes himself to have the power of endowing the statue with one sense after another, until it becomes perfectly a human being, and so endeavors to show that as it would then possess exactly the same kind of ideas as ourselves—and yet while destitute of sensations, possessed no ideas—it logically follows that ideas spring exclusively from sensations. In all his writings, C. used an acute analysis, and, as consistently as was possible, adhered to the extreme theory of sensationalism. C. passed his life mostly in retirement, and died at his estate near Beaugenci.

CONDIMENT, n. *kōn'dī-měnt* [L. *condimen'tum*, seasoning: It. *condimento*: F. *condiment*]: seasoning for food; sauce; pickle. The greater part of condiments are necessary for the proper functions of the alimentary system, and besides gratifying the appetite, minister, more or less, to the wants of the structure. The principal condiments are saline substances, such as common salt; acidulous, such as acetic acid or vinegar; oily, such as butter and olive-oil; saccharine, such as sugar and honey; and aro

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matic and pungent, such as mustard, ginger, pepper, and pickles. The members of the last class owe their characteristic properties to the presence of a volatile oil or resin.

CONDITION, n. *kõn-dîsh'ûn* [F. *condition*—from L. *conditîonem*. external position, situation]: a particular mode or state of being; temperament or disposition of body or mind; order, rank or quality; terms of agreement; something laid down as essential. **CONDITION** in Athletics: see **TRAINING**: V. to lay down as essential; in *OE.*, to make terms; to stipulate. **CONDIT'IONING**, imp. **CONDIT'IONED**, pp. -*ûnd*: **ADJ.** having certain qualities—preceded by such words as *good, well, bad*; in *metaph.*, having conditions or relations; not absolute. **THE CONDITIONED**, in *metaph.*, the state of having conditions or relations; the state of not being absolute. **CONDIT'IONAL**, a. -*ûn-ål*, containing or depending on certain terms; not absolute; hypothetical. **CONDIT'IONALLY**, ad. -*lî*, with certain limitations; under certain stipulations. **CONDIT'IONAL'ITY**, n. -*ål'î-tî*, the quality of being conditional or limited.—**SYN.** of 'condition': state; circumstance; situation: incident; event; occurrence; stipulation; station; case; plight; predicament; article; terms; arrangement; provision.

CONDIT'ION, in Law: some action or state of facts laid down as essential to the fulfilment of an engagement made. The word denotes a feature of peculiar importance in the real property law of England, as forming the foundation upon which the right of alienation of land, as well as the system of entails and that of mortgages in that country was raised. Originally, a gift of an estate to a tenant (or vassal) by the lord of the fee did not convey more than a life-estate; and when a gift was made to a man and the heirs of his body, it was held that it was a gift upon C. that he had heirs of his body. But if the C. was performed by his having children, although they might all die before his own death, the judges held that his estate became absolute, to the effect that he might aliene the land, and so bar not merely the succession of his issue, but the right of the lord in default of issue, although, if he did not aliene, the lord would recover in the event of the tenant's death without issue. But it came afterward to be held that a gift to a man and the heirs of his body conferred what is called an estate tail, which might at once, by certain forms, be converted into an absolute estate, independent of the birth of issue: see **ENTAIL**.

In the law of Britain and America generally, a mortgage is an estate given to the mortgagee upon C. that he restores it upon payment of a fixed sum borrowed by the mortgager. This is an example of an estate upon C. *expressed*. An estate attached to an office is an estate in the holder of the office upon C. *implied*, that he shall perform its duties. A C. may also be either *precedent* or *subsequent*: in the former case, the gift does not take effect until the C. is performed; in the latter, it becomes void when the C. occurs. The right to take advantage of a C. subsequent cannot be bestowed on a stranger, but can only be reserved to the

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grantor and his heirs, though after such reservation it may be assigned to a stranger. Conditions incapable of performance, or contrary to law, are void; and if such a C. is precedent, it makes the gift void; if subsequent, the estate becomes absolute in the tenant. But if a C. become illegal, or impossible, subsequently to the making of the grant, it has a different effect, according as the effect is produced by statute or by other circumstances. If by statute, the party bound to perform the C. is relieved from it; if by other circumstances, he loses his right, as being unable to perform the condition.

In contracts, conditions which are *mala in se* render the contract void; but it is otherwise if the C. is opposed merely to an arbitrary rule of law, in which case the C. only is void, and the contract subsists. In legacies, a similar rule prevails. But in the case of legacies, a C. impossible of performance is generally taken *pro non scripto*—whereas in contracts, it commonly annuls the claim of the party who has bound himself to its performance.

CONDI'TION, in Logic: that which must precede the operation of a cause. It is regarded not as that which produces an effect, but as that which renders the production of one possible; for instance, when an impression is made on wax by a seal, the seal is said to be the cause; the softness or fluidity of the wax, a condition. Some logicians, however, hold that the distinction usually made between C. and cause is arbitrary.

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CONDI'TIONED, THE PHILOSOPHY OF THE: phrase brought into use by Sir Willian Hamilton, to express the inability of the human mind to conceive or reason respecting the Absolute and the Infinite. Our thought, according to him, can be only of the *relative* and the *finite*, of which the terms absolute and infinite are but the negations; relativity and finitude are the conditions under which the human intelligence operates. In a dissertation on this subject (*Discussions in Philosophy*, p. 1), he criticises and endeavors to refute the opposite position as maintained by Cousin—a modification of the previous doctrine of Schelling—that ‘the Unconditioned, the Absolute, the Infinite, is immediately known in consciousness, and this by difference, plurality, and relation.’

This doctrine of Sir William Hamilton has been raised into especial importance by Mr. Mansel in his *Bampton Lectures*, and has been developed far from its originator's intent in recent systems of agnosticism. It is here briefly presented, first in its author's own statement:

‘In our opinion, the mind can conceive, and consequently can know, only the *limited*, and the *conditionally limited*. The unconditionally unlimited, or the *Infinite*, the unconditionally limited, or the *Absolute*, cannot positively be construed to the mind; they can be conceived only by thinking away from, or abstraction of, those very conditions under which thought itself is realized; consequently, the notion of the Unconditioned is only *negative*—negative of the conceivable itself. For example: On the one hand, we can positively conceive neither an absolute whole, that is, a whole so great that we cannot also conceive it as a relative part of a still greater whole; nor an absolute part, that is, a part so small that we cannot also conceive it as a relative whole, divisible into smaller parts. On the other hand, we cannot positively represent, or realize, or construe to the mind (as here Understanding and Imagination coincide) an infinite whole, for this could only be done by the infinite synthesis (union) in thought of finite wholes, which would of itself require an infinite time for its accomplishment; nor, for the same reason, can we follow out in thought an infinite divisibility of parts. The result is the same, whether we apply the process to limitation in *space*, in *time*, or in degree. The unconditional negation, and the unconditional affirmation of limitation; in other words, the *Infinite* and the *Absolute*, *properly so called*, are thus equally inconceivable to us.’—*Discussions*, p. 13, 2d edition.

The fundamental ideas involved in this view are certain observed facts with reference to the human consciousness; with certain deductions from those facts which have gained wide acceptance. Thus, it is deemed a general law of our mental constitution, that change of impression is essential to consciousness in every form. The remark was made by Hobbes, that it is ‘almost all one for a man to be always sensible of one and the same thing, and not to be sensible at all of anything.’ Notable examples are cited to show that an unvarying action on the senses fails to give any

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perception whatever. Take the pressure of the air on the surface of the body. Here, it is said, we have an exceedingly powerful effect upon one of the special senses. The skin is under an influence exactly of that nature that wakens the feeling of touch, but no feeling comes. Withdraw any portion of the pressure, as with a cupping-glass, and sensibility is developed. A constant impression is thus, to the mind, the same as a blank. Our partial unconsciousness of our clothing is connected with the constancy of the object. Remission or change is, therefore, absolutely requisite in order to sensibility.

The necessity of change in order to produce feeling or consciousness of any sort, must apply to the special kind of consciousness that we call knowledge. To know light, is to pass from its presence to its absence, or the opposite; it is claimed that everlasting, unvarying luminosity, in an eye always awake, would not be known to the human mind. Certainly, it is transition that develops knowledge, whether or not it originates it; thence is deduced the wide and important statement, that knowledge *never can be of one property alone*; there must always be at least two properties in every act of knowing. We may say that we know light; but in so doing we also know darkness, and we infer that we could not know either by itself. When we touch clay and marble, we know hard and soft; but if we had never touched a soft body, it is inferred that we should have no conception of a hard one. Living in one constant temperature, like the fish in tropical seas, it is asserted that we should know neither heat nor cold; passing from a high temperature to a low, or from a low to a high, we know both; and such is the alternative presented in every case to the human understanding. Thus is deduced as a great fundamental law of the human mind, *the relativity of knowledge or of cognition*.

Mr. Mansel, accordingly, disputes the possibility of our conceiving the infinite, by showing that such a conception passes the limits of human consciousness. The following extract will show his mode of reasoning: 'Now, in the first place, the very conception of consciousness, in whatever mode it may be manifested, necessarily implies *distinction between one object and another*. To be conscious, we must be conscious of something; and that something can only be known as that which it is, by being distinguished from that which it is not. But distinction is necessarily limitation; for, if one object is to be distinguished from another, it must possess some form of existence which the other has not, or it must possess some form which the other has. But it is obvious that the infinite cannot be distinguished, as such, from the finite, by the absence of any quality which the finite possesses; for such absence would be a limitation. Nor yet can it be distinguished by the presence of an attribute which the finite has not; for, as no finite part can be a constituent of an infinite whole, this differential characteristic must itself be infinite, and must at the same time have nothing in common with the finite. We are thus

thrown back upon our former impossibility.'—Lecture Third.

'A second characteristic of consciousness,' according to Mr. Mansel, 'is, that it is only possible in the form of a *relation*. There must be a Subject, or person conscious, and an Object, or thing of which he is conscious. There can be no consciousness without the union of these two factors; and, in that union, each exists only as it is related to the other. The subject is a subject, only in so far as it is conscious of an object; the object is an object, only in so far as it is apprehended by a subject; and the destruction of either is the destruction of consciousness itself. It is thus manifest that a consciousness of the absolute is equally self-contradictory with that of the infinite. To be conscious of the absolute as such, we must know that an object which is given in relation to our consciousness, is identical with one which exists in its own nature, out of all relation to consciousness. But to know this identity, we must be able to compare the two together; and such a comparison is itself a contradiction. We are, in fact, required to compare that of which we are conscious, with that of which we are not conscious, the comparison itself being an act of consciousness, and only possible through the consciousness of both objects.'

The author then lays down a third condition of consciousness—namely, relation to *time*. Everything conceived by us is conceived as under the two manifestations of *succession* and *duration*, from which he endeavors to show 'that an act of *creation*, in the highest sense of the term—that is to say, an absolutely first link in the chain of phenomena, preceded by no temporal antecedent—is to human thought inconceivable. To represent in thought the first act of the first cause of all things, I must conceive myself as placed in imagination at the point at which temporal succession commences, and as thus conscious of the relation between a phenomenon in time and a phenomenon out of time. But the consciousness of such a relation implies a consciousness of both the related members; to realize which, the mind must be in and out of time at the same moment.'

And, further: 'Subordinate to the general law of time, to which all consciousness is subject, there are two inferior conditions, to which the two great divisions of consciousness are severally subject. Our knowledge of body is governed by the condition of *space*, our knowledge of mind by that of *personality*. I can conceive no qualities of body save as having a definite local position; and I can conceive no qualities of mind save as modes of a conscious self.'—Lecture Third.

By the application of those four conditions or limitations of the human consciousness—distinction, relation, succession, and duration in time, and personality as regards the conception of mind—it is Mr Mansel's purpose to demolish the foundations of the metaphysical theology of former ages, which was largely conversant with proofs *a priori* of the infinity and the absolute existence of a Deity. According to him, a rational theology is impossible to be

attained. 'Our whole consciousness manifests itself as subject to certain limits, which are unable, in any act of thought, to transgress. That which falls within these limits, as an object of thought, is known to us as *relative* and *finite*. The *absolute* and the *infinite* are thus, like the *inconceivable* and the *imperceptible*, names indicating, not an object of thought or of consciousness at all, but the mere absence of the conditions under which consciousness is possible. The attempt to construct in thought an object answering to such names, necessarily results in contradiction—a contradiction, however, which we have ourselves produced by the attempt to think—which exists in the act of thought, but not beyond it—which destroys the conception as such, but indicates nothing concerning the existence or non-existence of that which we try to conceive. It proves our own impotence, and it proves nothing more.'

These arguments excited much alarm, as tending to overthrow all *a priori* proofs of the existence of Deity, and by consequence the whole traditional system of received divinity; but they were really aimed against rationalism or rational theology; which Mansel sought to prove impossible. The attempt to construct a conception of the absolute or infinite, he held, 'necessarily results in contradiction: it proves our own impotence; and it proves nothing more.' The discussion, interesting in the realm of metaphysics, was also among the most important in the recent history of religious thought, and has had good result in drawing the proper line of demarkation between the realm of science and that of faith. But notwithstanding the excellent intention and the intellectual keenness and skill with which the Philosophy of the Conditioned was advocated, it was early felt, and has been seen increasingly, by the great body of metaphysical students, that its fundamental principle operates to invalidate its own conclusions. Starting with denial of the possibility of our conceiving of the infinite and unconditioned, or of our dealing with them by our reasoning faculties, it proceeds at large to deal with them and reason concerning them as objects of our thought. But even those who find it futile as a system, acknowledge its widely helpful influence in its suggestion of certain limitations of our thought which had been too long and too generally overlooked. See ABSOLUTE: INFINITE.

CONDOLE, v. *kõn-dõl'* [L. *con*, together; *dolēre*, to feel pain, to grieve]: to grieve with another in distress or misfortune; to sympathize. CONDO'LING, imp. CONDOLED', pp. -*dõld'*. CONDO'LATORY, a. -*lã-tēr-ĩ*, expressing condolence. CONDO'LER, n. one who. CONDOLE'MENT, n. in *OE.*, sorrow; grief. CONDO'LENCE, n. -*lěns* [F. *condolérance*, condolence—from F. *dolérance*, complaint, grief]: grief or pain of mind excited and expressed by the distress or misfortunes of another; expressions of sympathy from friends on the occasion of a loss or misfortune.—SYN. of 'condolence': sympathy; commiseration; pity; compassion; clemency; mercy.

CONDOM, *kõng-dõng'*: town of France, dept. of Gers, pleasantly situated on a height on the river Baise, here

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crossed by two bridges, 25 m. n.n.w. of Auch. The town is very old, founded 721, is irregularly built, but has handsome suburbs. It has a handsome Gothic church, an exchange, and two hospitals. There is considerable trade in grain, flour, wine, and brandy, and manufactures of cotton and mixed fabrics, cotton yarn, and earthenware. C. was formerly cap. of an extensive district, now comprised in the departments of Gers, Landes, and Lot-et-Garonne. Bossuet was at one time Bp. of Condom. Pop 5,000.

CONDONE, v. *kõn-dõn'* [L. *condõnārē*, to pardon—from *con*, *dõno*, I give: It. *condonare*]: to overlook the offense of; to forgive for a violation of the marriage-vow; said of offenses generally, but in law restricted to adultery, and said of either husband or wife. **CONDO'NING**, imp. **CONDONED'**, pp. *-dõnd'*. **CONDONATION**, n. *kõn'dõ-nā'shûn* [L. *condonā-tiõnem*, a going away]: the act of pardoning; forgiveness, expressed or implied, on the part of the husband or wife, for a violation of the marriage-vow—put forward as a legal defense against an action for divorce on the ground of adultery.

CONDOR, n. *kõn'dõr* [Sp. *condor*—from Peruvian *cun-tur*], (*Sarcoramphus gryphus*): the great vulture of the Andes, largest of known flying birds. Its dimensions, however, were for a long time greatly exaggerated. It is not



Head of Condor.

always much larger than the *lämmergeyer* of the Alps, being sometimes scarcely more than four ft. long, and its expanse of wings about nine ft., though these dimensions are often considerably exceeded, and the expanse of wings reaches fully 14 ft. The wings are long, and extremely powerful; the tail short, and wedge-shaped; the general color black, brightest in old males, the young being of a brownish color, which has given rise to a notion that there are two species; the males are also distinguished by having great part of the wings white.

Around the lower part of the neck of both sexes there is a broad white ruff of downy feathers, above which the skin is bare, and exhibits many folds. The head of the male is crowned with a large cartilaginous comb, and the neck is furnished with a dilatable wattle. The beak is thick and strong, straight at the base, but the upper mandible strongly curved at the extremity. The C. feeds mostly on carrion. Its voracity is enormous. Tschudi mentions one in confinement at Valparaiso which ate 18 lbs. of meat in a single day, and seemed next day to have as good an appetite as usual. Condors often gorge themselves so that they cannot fly, and if attacked, must disgorge in order to escape. They inhabit regions 10,000 or 15,000 ft. above the level of the sea, where they breed, making no nest, but laying their eggs on the bare rocks, and where they are usually seen in small groups. To these haunts they return, after their descents into the plains for food. The height to which

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the C. soars in the air exceeds that of any other bird, and is said to be almost six perpendicular miles above the level of the sea, or nearly six times the ordinary height of the clouds.—To the same genus with the C., distinguished by the cartilaginous comb, bare neck, and peculiar shape of bill, belong the King Vulture, or King of the Vultures (*S. papa*), of the warm parts of America, and the California



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Vulture (*S. Californianus*). The king of the vultures is about the size of a goose, and derives its name from its driving away other vultures from prey at its pleasure. Its plumage is finely colored, reddish above, white beneath, with bluish-gray ruff, and black quills and tail.—The birds of this genus have no voice, and make only a sort of weak snorting.

CONDORCET, *kōng-dor-sā'*, JEAN ANTOINE NICOLAS DE CARITAT, Marquis DE: 1743, Sep. 17—1794, Apr. 9; b. Ribemont, near St. Quentin, dept. of Aisne, France: author. He studied at the college of Navarre; and by his *Essai sur le Calcul Intégral* (afterward given in an extended form in his *Essais d'Analyse*), gained for himself, at an early age, a seat in the Acad. of Sciences. With ease and remarkable ingenuity C. treated the most difficult problems of mathematics; but though deserving high praise, his powers lay rather in suggestion than in rigorous demonstration. After the appearance of his *Eloges des Académiciens Morts avant 1699* (Paris 1773), he was made sec. of the Acad., 1777. His theory of comets gained, in the same year, a prize in the Berlin Academy. In concert with Turgot, he was induced to subject the system of the economists to a close examination, and was led by D'Alembert to take active part in the *Encyclopédie*. In all his works—as, for example, in the *Eloges et Pensées de Pascal*—we find noble views of human destiny, and evidences of a benevolent

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disposition. At the Revolution, he was elected member for Paris in the legislative assembly, of which he was president 1792. In the national convention, as deputy for the dept. of Aisne, he mostly voted with the Girondists, and shared in the downfall of that party. Accused, 1793, Oct., he concealed himself, and consequently was outlawed. A generous lady, Madame Verney, had the courage to provide for him a hiding-place, where he remained for some months, and in very miserable circumstances wrote his most remarkable work, the *Esquisse des Progrès de l'Esprit Humain*. Having quitted his concealment, he was arrested at Clamart, sent to Bourg-la-Reine, and cast into prison. The next morning he was found lying dead on the floor. He had, it is believed, poisoned himself. His collected works (exclusive of his mathematical essays) were edited by Garat and Cabanis (21 vols. Paris, 1804).—His wife, SOPHIE DE C. (1765–1822, sister of Marshal Grouchy), assisted in the literary labors of C., and also translated into French, Adam Smith's *Theory of Moral Sentiments*.

CONDOTTIERI, *kon-dot-yā'rē*: name given in the 14th c. to the leaders of certain bands of military adventurers who, for booty, offered their services to any party, in any contest, and often practiced warfare on their own account, purely for the sake of plunder. These mercenaries were called into action by the endless feuds of the Italian states during the middle ages. Among the most celebrated of their leaders were Guarnieri, Lando, Francis of Carmagnola (about 1412), and Francis Sforza (about 1450). The last-mentioned made himself Duke of Milan. The *Compagnies Grandes* in France, during the 14th c., resembled the bands led by the Italian condottieri. They originated in the long, bloody wars between France and England. The mischief done by them became so intolerable, that in several parts of the country the peasantry armed themselves, and under the name of *pacifères*, formed associations against the plunderers. Nevertheless, these French C. were so powerful that, in 1361, they routed the king's forces which had been sent against them, at Brignais, near Lyon, and slew the Constable of France, Jacques de Bourbon; but the Constable du Guesclin persuaded them to seek their fortune in the Spanish service.

CONDUCE, v. *kōn-dūs'* [L. *condūcĕrĕ*, to bring or lead together—from *con*, *dūcĕrĕ*, to lead: It. *conducere*: F. *conduire*]: to lead or tend to; to help forward some object or purpose; to contribute. CONDU'CING, imp. CONDUCTED', pp. *-dūst'*. CONDUCTIBLE, a. *-sĭ-bl*, leading or tending to. CONDU'CIBLY, ad. *-blĭ*. CONDU'CIBLENESS, n. the quality of being able to lead to an end. CONDUCTIVE, a *kōn-dū'sĭv*, that may contribute; having a tendency to promote. CONDU'CIVENESS, n. the quality of tending to promote.—SYN. of 'conduce': to contribute; advance; promote; forward; tend; further; lead; guide.

CONDUCT, n. *kōn'dūkt* [L. *conductus*, led together—from *con*, *ductus*, led: F. *conduite*, behavior] the act or method of

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leading; personal behavior; mode of life; management; guidance; escort or guard; the title of the clergyman who says prayers at Eton; in *OE.*, a conductor or guide: V. *kön-dūkt'*, to lead together; to bring along or guide; to behave, as one's self; to direct; to point out the way; to manage; to lead or command; to transmit. CONDUCT'ING, imp. CONDUCT'ED, pp.: ADJ. in *phys.*, led or transferred from one body to another, or from particle to particle—applied to heat as opposed to radiation. CONDUCTOR, n. masc. CONDUCTRESS, fem. one who. CONDUCTION, n. *-shūn*, the transmission from one body to another, or through the same body, as heat (see HEAT); transmission through a conductor. CONDUCTOR, n. one who accompanies another to show him the way; a manager or director; leader of a band of musicians, in Germany called by the more expressive name of *Dirigent*; one who attends to the passengers in a car or omnibus; a body which offers little resistance to the passage of electricity or heat, etc.; a lightning-rod. CONDUCTIBILITY, n. *-tī-bil'ī-tī*, capacity of receiving and transmitting. CONDUCTIVE, a. *-tīv*, leading; transmitting. CONDUCTIVITY, *-tīv'ī-tī*, the power or quality of conducting or giving passage to. CONDUCTORY, a. *-tēr-ī*, used in conducting. SAFE-CONDUCT, a written pledge or guaranty of safety from the supreme or ruling authority, especially to one travelling through a disturbed country or through the lines of an army in the field.—SYN. of 'conduct n.': deportment; behavior; carriage; management; demeanor; guidance; convoy; guard; —of 'conduct v.': to lead; guide; direct; escort; convoy; introduce; attend; control; manage; regulate; carry; behave; act.

CONDUCTORS, in the Royal Artillery: those artillerymen who have charge of the ammunition-wagons in the field.

CONDUCTORS AND NON-CONDUCTORS OF ELECTRICITY: substances affording, or refusing, the transmission of electricity. If a rod of metal be made to touch the prime conductor of an electrical machine immediately after the plate has ceased to rotate, every trace of electricity immediately disappears. But if the rod were of shellac, little or no diminution would be perceptible in the electrical excitement of the conductor. The metal in this case leads away the electricity into the body of the experimenter, and thence into the ground, where it becomes lost; and it receives in consequence the name of a conductor. The shellac, for the opposite reason, is called a non-conductor. Different substances are found to possess the power of conducting electricity in very different degrees. The following series classifies the more common substances according to their conducting powers, beginning with the best and ending with the worst conductors. Conductors—The metals, graphite, sea-water, spring-water, rain-water. Semi-conductors—Alcohol and ether, dry wood, marble, paper, straw, ice at 32° F. Non-conductors—Dry metallic oxides, fatty oils, ice at -13° F., phosphorous, lime, chalk, caoutchouc, camphor, porcelain,

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leather, dry paper, feathers, hair, wool, silk, gems, glass, agate, wax, sulphur, resin, amber, shellac.

The arrangement into conductors, semi-conductors, and non-conductors, is made with reference to frictional electricity, or electricity of a high tension. The substances which are semi-conductors for frictional electricity are found to be almost, if not altogether, non-conducting for the electricity of the galvanic battery, which is too feeble to force a passage through them. The metals, which appear to be all nearly alike conducting for frictional electricity, offer widely differing resistances to the transmission of the galvanic current. By experiments made with galvanic electricity, it is found that the more ordinary metals stand thus, as regards their powers of conduction, beginning as before with the best conductor: Silver, gold, copper, brass, zinc, iron, platinum, tin, nickel, lead, German-silver, mercury. An increase of temperature has in the metals the effect of lessening the conducting power, while in almost all other substances it has an opposite effect. Glass becomes conducting at a red heat; and so do wax, sulphur, amber, and shellac, when fused.

When a conductor is placed on non-conducting supports, so as to prevent the electricity communicated to it from passing into the ground, it is said to be insulated. The usual insulating material employed in the construction of electrical apparatus is glass, which, though not so perfect a non-conductor as the others lower in the scale, far exceeds them in hardness and durability. In a damp atmosphere, glass becomes coated with a thin layer of moisture, which very considerably diminishes its insulating power. Hence arises the necessity, in certain states of weather, of heating so as to dry all electrical apparatus previous to use. This imperfection is very much lessened by covering the glass with shellac varnish.

The very fact that a conductor may be insulated, indicates that the air is a non-conductor. Dry air possesses this property in a high degree, while moist air renders insulation, for any length of time, impossible.

CONDUIT, n. *kŭn'dīt* or *kŏn'* [F. *conduit*—from L. *con*, together; *ductus*, led or conducted]: a canal or pipe for the conveyance of water; a channel; a surface-drain.

CONDUPLICATE, a. *kŏn-dŭ'plĭ-kāt* [L. *con*, together; *duplicātus*, doubled]: doubled; folded upon itself.

CONDYLE, n. *kŏn'dĭl* [Gr. *kon'dulos*, a knuckle, a knob]: a rounded projection at the end of a bone forming the surface by which the bone articulates with another; one of the articular surfaces by means of which the skull articulates with the vertebral column; a knuckle. CON'DYLOID, a. *-dĭ-loyd* [Gr. *eidos*, form]: resembling or carrying a condyle—generally applied to the projection by which the lower jaw is articulated with the head.

CONDY'S FLUID: see MANGANESE.

CONE, n. *kŏn* [F. *cône*—from L. *cŏnus*, a cone: Gr. *kŏnos*: It. *cono*, a cone: comp. Skr. *cana*, a whetstone; L. *cunĕūs*, a wedge]: a figure broad and round at the bottom, gradually

CONE.

lessening in circumference, like a sugar-loaf; the fruit of the fir, pine, etc., consisting of overlapping spirally disposed scales, beneath which are the obscure reproductive organs; a shell very common in warmer seas. CONIC, a. *kōn'ik*, or CONICAL, a. *kōn'ī-kāl*, having the form of a cone; cone-shaped. CON'ICALLY, ad. *-lī*. CONICS, n. plu. *kōn'īks*, that part of geometry which treats of the properties of conical figures and the curves which arise from their sections. CON-IC SECTIONS, curves formed by the intersections of a plane and a cone—viz., the *circle*, the *parabola*, the *hyperbola*, and the *ellipse*. CONIFEROUS, a. *kō-nīf'ēr-ūs* [L. *fero*, I carry]: in *bot.*, bearing cones. CONIFER, n. *kō'nī-fēr*, CONIFERÆ, n. plu. *kō-nīf'ēr-ē*, the nat. ord. of trees or shrubs which bear cones, including the pine, fir, and juniper. CONIFERIN, n. *kō-nīf'ēr-in*, a substance obtained from the inner bark of coniferous trees, containing sugar and the substance identical with that which produces the aroma of vanilla. CONIFORM, a. *kō'nī-fawrm* [L. *forma*, a shape]: shaped like a cone. CONOID, n. *kō'noyd* [Gr. *eidos*, a form]: that which resembles a cone; in *math.*, a solid formed by the revolution of a conic section about its axis; such are the sphere, paraboloid, ellipsoid, and hyperboloid: ADJ., also CONOI'DAL, a. *-nōy'dāl*, pertaining to a conoid; nearly conical. CONOI'DIC, a. *-dīk*, or CONOI'DICAL, a. *-dī kāl*, pertaining to or like a conoid. CONE-FLOWER, a plant, genus *Rudbeckia*, order *Compositæ*. CONE-GEAR, a mode of transmitting motion, consisting of two cones rolling together. CONE-HEAD, the name given by gardeners to *Strobilanthes*, a genus of *Acanthaceæ*. CONE-PULLEY, an arrangement for varying the speed of the bobbin in spinning-machines, giving them a gradually decreasing velocity as the roving is wound thereon, so as to keep an equal strain on the roving. CONE-WHEEL, a wheel with several applications: (1) Two frustums are in opposition, one having teeth on its face and the other a spirally arranged row of studs. The toothed wheel at its small end acts upon studs on the larger portion of the opposite wheel and conversely. The effect is to confer a regular variability of rotation to the stud-wheel from a regular rotation of the driving frustum. (2) The frustum, being driven by the motor, communicates motion to the wheel above it. This is not intermittent or variable, but is adjustable. The nearer the upper wheel is to the base of the cone, the faster will it rotate, and conversely. CONE-IN-CONE, a. resembling a series of hollow cones, each inserted in the cone next preceding it in size, like the small pill-boxes at a druggist's. This structure is occasionally found in coal, limestone, etc.

CONE (*strobilus*), in Botany: a fruit-bearing spike covered with scales, each of which has two seeds at its base. Such are the fruits of the *Coniferae* (fir-cones or fir-tops), from the usual shape of which the name C. is derived; also the fruits of the *Casuarineæ*. The name C. is applied also to the female spike, even when in flower. The scales of true cones, until they separate to allow the dispersion of the seeds, are closely compacted together; in the hop, to the fruit of which the name C. is not applied, though *strobilus* is, they are loose. Some true cones, as those of the

CONE—CONENCHYMA.

Araucaria, are far from conical in shape. The fruit of the juniper (a *galbulus*) is a C. of which the scales have become fleshy, so as to form a false berry.

CONE, in Geometry: figure broad, and usually round, at one end, tapering to a point at the other end. There are various kinds of cones, but the term is usually applied only to those having circular bases. The most common kind of circular C. is the *right* C., which may be conceived as being generated by the revolution of a right-angled triangle round one of its legs. The line from the apex of a C. to the centre of the base is called the axis, and, in the right C., it is perpendicular to the base. In the *oblique* C., the axis is inclined to the plane of the base at an angle other than a right angle. A *truncated* C. is the lower part of a C. cut by a plane parallel to the base.

CONIC SECTIONS are four curves which may be formed by cutting the right C. in different directions. If the C. be cut by a plane parallel to the base, the section is a circle; if the plane cut the C. across, making any angle other than a right angle with its axis, the section is an ellipse; if the cutting plane be parallel to the side of the C., the section will be a parabola. In every other case than those stated, the section will be an hyperbola. If two cones were set one above the other, the one being just a continuation of the other through the apex, the plane producing the hyperbolic section would cut the second as well as the first, though none of the other planes would. There are thus two equal branches of the hyperbola belonging to the two cones respectively. See CIRCLE: PARABOLA: etc.

CONE, *kōn*, SPENCER HOUGHTON, D.D.: 1785, Apr. 30–1855, Aug. 28; b. Princeton, N. J. In early life he was a school-teacher, a law student, and an actor, and played in tragedy several years with success. He withdrew from the stage and bought the *Whig* newspaper, Baltimore, 1812; was religiously converted 1813, and received into the Bapt. Church 1814, Feb. 4: began preaching in Washington; was elected chaplain to congress 1815, 16; was pastor at Alexandria several years, at the Oliver Street Bapt. Church, New York, 18 years, and then of the First Bapt. Church, New York, till his death. He was highly esteemed throughout his pastoral career, and held many important offices, among them that of pres. of the Bapt. triennial convention 1832, 41; pres. of the American and foreign Bible Soc., 1837–50; and pres. of the American Bible Union from its formation till his death. He received the degree D.D. from Princeton, 1832.

CONEGLIANO, *kō-nāl-yá'nō*: town of n. Italy, 28 m. n.e. of Venice; on a hill-slope, crowned by an extensive castle, and has a very picturesque appearance. Half-obiterated frescoes adorn the outside of several houses in the town. C. has manufactures of woolens and silks. Pop. 6,500.

CONENCHYMA, n. *kōn-ě'n'kǎ-mǎ* [Gr. *kōnos*, the cone of

CONE-SHELL—CONEY ISLAND.

the pine; *engchuma*, an infusion, tissue]: tissue composed of conical cells, as in the form of hairs.

CONE SHELL (*Conus* and *Conidae*): genus and family of gasteropodous mollusks, of the order *Pectinibranchiata*, having a shell of remarkably regular conical form; the spire on the base of the cone, and sometimes rising from it to a sharp point, sometimes almost flat; the aperture narrow and straight, without protuberance or fold, extending from the base of the cone to its apex. The head of the animal has a proboscis capable of much extension; the mantle is scanty and narrow, forming an elongated siphon in front; the shell covered with an epidermis. These mollusks are carnivorous, they inhabit shores and banks of sandy mud, chiefly within the tropics, a few only occurring in the Mediterranean. The shells of many species are very beautiful, and much prized by collectors.—Cone-shells first appear in the chalk, and become more abundant in more recent formations.



Cone-shell.

CONESTOGAS, *kõn-ès-tõ'gaz*, or **GANDASTOGUES**: tribe of Indians, of the Iroquois family, Susquehannock division, which formerly owned the region in Penn. now covered by Lancaster co. They were almost constantly at warfare with neighboring tribes, and at one time nearly exterminated the Mohawks. Treaties were made with them, 1701, by William Penn, and in 1742; and what was supposed to be the last of them were murdered by the whites, after they had taken refuge in the jail at Lancaster during an anti-Indian excitement, 1763. The eloquent Logan, whose pathetic speech has been repeated by thousands of school children, was one of their most distinguished chiefs. The tribe were often called Susquehannas. A township, a post village, a creek, and a railroad station in Lancaster co. perpetuate the name C., as does also a long covered wagon formerly much used by settlers migrating to the states of the central west.

CONEWANGO CREEK, *kõn-è-wõng'go*: stream rising in the n.w. portion of Cattaraugus co., N. Y., traversing Chautauqua co., and flowing in a s. direction into Penn., where, after receiving the waters of the outlet of Chautauqua Lake, it empties, after a course of nearly 80 m., into the Alleghany river at Warren. C. C. and its outlets, through the Ohio and Mississippi rivers, furnish a boat navigation from the Gulf of Mexico to within 10 m. of Lake Erie.

CONEY, n. *kõ'nĩ*: see **CONY**.

CONEY ISLAND, *kõ'nĩ*: popular summer resort, 10 m. s.e. of New York, in the township of Gravesend, Kings co., N. Y. on the w. end of Long Island. It is separated from the mainland by a narrow and shallow creek connecting Gravesend and Sheepshead bays. Its area is officially given at 5 m. long, e. to w., by one m. wide; but this is liable to material changes by the washing away of the sand

CONFABULATE—CONFEDERATE.

by winter storms as well as by the reclaiming and filling in with earth of portions needed for business purposes. It was discovered 1609, was the scene of the first landing of Europeans in the territory of N. Y., and was the burial place of the first white man in all that region. About 1840, it began to be frequented for salt water bathing, and a few rude structures were erected on the w. end, known as Norton's Point. Afterward, it lost repute, and its visitors were far from select. But, abt. 1874, capital and fashion set in thither, and since then its appearance has been wholly transformed, and it has become one of the most noted resorts in the country. The former barren waste has given way to Manhattan Beach, Brighton Beach, West Brighton, and the West End, teeming with life, beauty, and all manner of attractions. Three great hotels face the Atlantic Ocean, with frontages averaging 600 ft.; elegant parterres of grass and beds of flowers greet the eye; the observatory of the Centennial exhibition has been erected there; numerous amusement resorts have been established, and old Norton's Point, now known as Sea Gate, is now the home station of the Atlantic Yacht Club. C. I. is reached by boat from New York, by steam and electric roads from Brooklyn, and by a superb drive-way 150 ft. wide which connects Prospect park, Brooklyn, with the 'Concourse,' an ocean-side drive and walks one m. long. In 1901 a city park was laid out between Brighton and West Brighton Beaches.

CONFABULATE, v. *kõn-fäb'û-lât* [F. *confabuler*, to confabulate—from L. *con*, *fabulor*, I converse, I chat; *fabulātus*, conversed, chatted]: to talk in an easy unrestrained manner; to chat. **CONFAB'ULATING**, imp. **CONFAB'ULATED**, pp. **CONFAB'ULA'TION**, n. *-û-lâ'shûn*, familiar and easy chat or conversation. **CONFAB'ULATORY**, a. *-lâ-têr-î*, having the character of an easy and familiar conversation. **CONFAB**, n. *kõn'fäb*, a familiar contraction of *confabulation*.

CONFARREATION, n. *kõn-fär'rê-â'shûn* [L. *confar-rêatiōnem*, a uniting by *far* or bread]: among the anc. Romans, a form of marriage by the man and woman making an offering of bread in the presence of the pontifex maximus and ten witnesses; marriage by eating bread together. Among the Romans, various priestly offices, such as that of the *Flamen Dialis*, were open only to those who were born of parents thus married.

CONFECT, v. *kõn-fêkt'* [L. *confectus*, made thoroughly; *confectiōnem*, a preparing, a finishing completely—from *con*, *factus*, made]: to preserve with sugar; to form into sweetmeats: N. *kõn'fêkt*, a sweetmeat. **CONFEC'TING**, imp. **CONFEC'TED**, pp. **CONFEC'TION**, n. *-fêk'shûn* [F.—L.]: anything prepared with sugar; a sweetmeat. **CONFEC'TIONER**, n. *-êr*, one who makes sweetmeats. **CONFEC'TIONERY** or **-ARY**, n. *-êr-î*, sweetmeats, candies, comfits, and various delicacies made from sugar; the art of preparing them.

CONFEDERATE, v. *kõn-fêd'êr-ât* [L. *confœderātus*, leagued together thoroughly—from *con*, *fœderātus*, leagued

CONFEDERATION OF THE RHINE.

together, confederate: F. *confédérer*]: to unite together in a league with others; to ally: N. a person or nation united in a league with others; an ally; an accomplice: ADJ. united in a league; allied by treaty. CONFED'ERATING, imp. CONFED'ERATED, pp.

CONFEDERATE STATES OF AMERICA: see SECESSION, WAR OF.

CONFEDERATE VETERANS' ASSOCIATION: an association organized in New Orleans 1899, June 10. Its constitution says that it "will endeavor to unite in a general federation all associations of Confederate veterans, soldiers, and sailors now in existence or hereafter to be formed; to gather authentic data for an impartial history of the war between the States; to protect the widows and orphans; to care for the disabled; and extend a helping hand to the needy.

CONFEDERATION: association by league or federal contract entered into by sovereigns, states, and nations for mutual protection or commercial and political advantage. Prior to 1788, when the constitution was adopted, the United States were such a C.: for its good results, and for its defects which led to a re-organization under the present constitution, see CONFEDERATION OF THE THIRTEEN AMERICAN COLONIES. For the confederation of the states of Germany, see CONFEDERATION OF THE RHINE: also GERMANY (for the 'Germanic Confederation').

CONFEDERATION OF THE RHINE: league of certain German princes, seceding from the German empire and allying themselves with France, 1806, July 12. During the war of 1805, so disastrous for Austria, several German princes, too weak to remain neutral, were forced to ally themselves with France. The first to do so were the electors of Bavaria and Würtemberg, who, in recompense of their services, were elevated to the dignity of kings by the peace of Presburg, 1805, Dec. 26. Some months after (1806, May 28), the arch-chancellor of the empire announced at the diet that he had chosen as his coadjutor and successor Cardinal Fesch, the uncle of Napoleon, an act entirely contrary to the constitution of the Germanic empire. Finally, at Paris, 1806, July 12, 16 German princes formally signed an act of confederation, dissolving their connection with the Germanic empire, and allying themselves with France. These 16 princes were—the kings of Bavaria and Würtemberg, the arch-chancellor, the Elector of Baden, the new Duke of Cleves and Berg (Joachim Murat), the Landgraf of Hesse-Darmstadt, the Princes of Nassau-Usingen, Nassau-Weilburg, Hohenzollern Hechingen, Hohenzollern-Sigmaringen, Salm-Salm, Salm-Kyrburg, the Duke of Arenberg, the Princes of Isenburg-Birstein and Lichtenstein, and the Count of Leyen. These individuals justified (or were forced to justify) their conduct by enumerating the vices of the constitution of the Germanic empire, and invited the remaining princes of Germany to imitate their example. At the same time,

CONFEDERATION OF AMERICAN COLONIES.

Bacher, the French ambassador, declared that his master, the emperor Napoleon, no longer recognized the Germanic empire; while the territories and titles of the confederate princes (who were now under the protectorate of Napoleon) underwent considerable changes. In addition to these changes, a number of other princes and nobles of the empire were made dependent (see *MEDIATIZATION*) on the confederation. During the years 1806-08, several other petty German sovereigns, alarmed at the triumphs of Napoleon, hastened to enroll themselves members of this unpatriotic league; and at the close of 1808, it embraced a territory of 122,236 sq. m., contained a pop. of 14,608,877, and kept up an army of 119,180 men. The utter ruin which overtook the French army in the Russian campaign acted like a solvent on the confederation, and the year 1813 saw it vanish like mist in the sudden outburst of German patriotism, when a whole people leaped up as one man, and delivered themselves from a cruel and insulting bondage.

CONFEDERATION OF THE THIRTEEN AMERICAN COLONIES: preliminary compact of the states under Articles of Confederation. The first step toward the organization of a govt. was the compact formed by the grim immigrants in the cabin of the *Mayflower*. Subsequently, three forms of govt. prevailed in the colonies; the charter, the royal or provincial, and the proprietary. In 1643, the colonies of Mass., Plymouth, Conn., and New Haven formed a confederation by the name of the 'The United Colonies of New England,' for protection against the Indians and the Dutch then at Manhattan. The internal affairs of each colony were left to its own govt.; the common affairs were to be conducted by a congress composed of two commissioners from each colony; and in war, each was to furnish its proportion of men and material.

The first constitution of the United States was the document known as 'The Articles of Confederation,' drafted by the continental congress 1777, Nov. 15, adopted 1778, July 9, and ratified by the several states as a league of perpetual friendship for the common defense, the security of their liberties, and their mutual and general welfare, 1781, Mar. 1. The confederacy was to be styled 'The United States of America,' and each state was to retain its sovereignty, freedom, and independence, and every power and right not expressly delegated to congress. The articles were 13 in number, and many objections were raised against them by the states, prior to ratification. After the conclusion of peace with Great Britain, it was found that the system of govt. adopted during the war was ill-adapted to the conditions of peace, the chief defect of the confederation lying in its weakness. The confederation had little more than advisory powers, as the operations of the govt. depended upon the good will of the thirteen distinct and independent sovereignties. To remedy these serious defects, congress authorized a convention to revise the articles of confederation. This assembled in Philadelphia 1787, May 14, under the presidency of Gen. Washington, and on Sep. 17 it completed the draft of the new constitu-

tion. It was immediately transmitted to congress for submission to the states for ratification; was ratified by 11 states before the close of 1788; and, a majority having accepted it, congress designated the first Wednesday in 1789, Jan., for choosing electors of pres.; the first Wednesday in Feb., for the electors to meet in their respective states to vote for pres. and vice-pres.; and Mar. 4, as the time, and New York as the place, to begin proceedings under the new constitution. This was the end of the confederation.

CONFER, v. *kõn-fër'* [F. *conférer*, to confer—from L. *conferrē*, to bring or carry together—from *con*, *ferrē*, to carry to bring: It. *conferire*—lit., to bring or carry together as for comparison]: to give or bestow; to consult together; to converse; in *OE.*, to bring to or contribute. CONFER'RING, imp. CONFERRED, pp. *kõn'fèrd*. CONFERENCE, n. *kõn'-fër-ěns* [F. *conférence*]: the act of conversing on any important subject and comparing opinions; a discussion between two or more for mutual instruction, as committees or delegates. CONFER'ER, n. one who. CONFERMENT, n. *kõn-fër'měnt*, the act of conferring, granting, or bestowing, as the conferment of degrees at universities.—SYN. of 'confer': to give; grant; bestow; counsel; advise; discourse; converse; contribute; consult;—of 'conference': conversation; colloquy; dialogue; discourse; consultation; interview.

CONFERENCE, in English Law: interview of an attorney or solicitor with a counsel, when consulting him. Consultation properly means the meeting of barristers with each other.

CONFERENCE, COMMITTEE OF, in Legislation: representatives of two or more interests appointed for the purpose of formulating a common line of action; a joint body appointed by two or more authorities to consider measures of value to each, but which neither is able nor willing to settle to the satisfaction of the others. A C. C. is strictly an advisory body, with power to agree upon a course and to recommend it for adoption to the source of its own existence; but it cannot conclude or order into effect any negotiation, nor bind its superiors to any specification. Frequently standing committees of congress, the state legislatures, and municipal councils appoint a sub-committee of their own members for the purpose of conferring with private citizens or corporations on matters of current legislation, and sometimes an entire committee will invite to a conference with it such persons as may be in a position to impart special information on a pending measure.

CONFERENCE, WESLEYAN: see METHODISTS.

CONFERENCES OF THE METHODIST EPISCOPAL CHURCH: see METHODIST EPISCOPAL CHURCH.

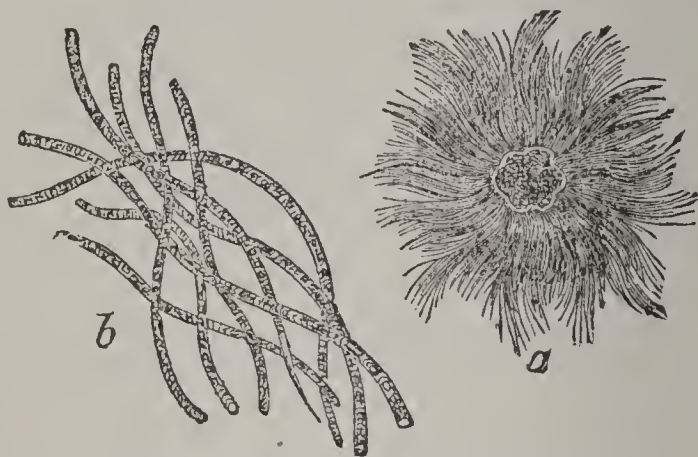
CONFERRUMINATED, a. *kõn-fër-rõ'mĩn-ā-těd* [L. *conferruminatus*, pp. of *conferrumino*, I cement together—from *con*, *sum*, with; *ferrumen*, cement; *ferrum*, iron]: in bot., closely united or joined, so as to be undistinguishable.

CONFERVA, n. *kõn-fër'vā*, CONFER'VÆ, n. plu. *-vē* [L. *conferva*, a medicinal water-plant—from *confervērē*, to grow

CONFERVA.

together]: in *bot.*, fresh-water plants, consisting of slender-jointed green filaments; green-colored algæ. CON'FERVA'CEUS, a. -*vā'shūs*, pertaining to the confervæ. CONFER'VOID, a. -*voyd* [Gr. *eidos*, resemblance]: in *bot.*, formed of a single row of cells; having articulations like the confervæ. CONFER'VITES, n. plu. -*vīts*, in *geol.*, fossil plants, apparently allied to the aquatic confervæ.

CONFERVA: genus of plants of the nat. ord. *Algæ*, sub-order *Confervaceæ* (or order *Confervaceæ*). The plants of this genus consist of simple or branching jointed filaments, filled with green—seldom purple or red—matter, and are found in abundance in water—some of them in fresh, and some in salt water—and on moist earth. *C. rivularis*, a species common in brooks, is sometimes 2-4 yards in length, and was formerly used as an application to wounds



Oscillatoria Distorta; a Conferval:
a, natural size; b, magnified.

and slight burns. This and other species are sometimes called *Crow Silk*, and are used in some places for stuffing mattresses. *C. rupestris* often covers whole rocks on the sea-coast. *C. crispa* sometimes forms a close entangled layer on inundated land, and has received the name of *Water Flannel*. *C. ægagropila*, sometimes called *Moor Ball*, is found in lakes and ponds, where it floats about freely in the water, its filaments forming an entangled ball, capable of being employed as a pen-wiper.—The name *C.* is not always strictly limited to the genus, but is extended to many of its near allies. Among the *Confervaceæ*—or Confervals—however, are included many plants, as the different kinds of Laver, which have a flat, and not a thread-like frond. Many also consist of cells immersed in a slimy matter. The *Confervaceæ* grow by the division, and sometimes by the branching of cells; reproduction takes place by *spores*, formed in the interior of the cells, and which at last are discharged through the walls of the mother-cell. The very interesting phenomenon of the conjugation (q.v.) of cells has been observed in them. The spores assume the character of zoospores (q.v.), exhibiting movements which resemble those of animals, before leaving the mother-cell, and retain this character for some time after escaping from it. *Confervaceæ* are found plentifully, even in mineral waters. Their great abundance often gives a color to the

CONFESS—CONFESSION.

whole water of tanks, marshes, etc. The Red Sea is said to derive its name from the color sometimes given to the surface of its waters, for distances as great as the eye can reach, by small *Confervaceæ*. The yeast-plant has been ranked among *Confervaceæ*, but is more generally regarded as one of the *Fungi*. Other vegetable organisms which appear in liquids of the most various kinds, and which have also been ranked among *Confervaceæ*, are more probably the *mycelium* of imperfectly developed *Fungi*. The plants noticed under ALGÆ as appearing in diseased conditions of animals, are regarded as *Confervaceæ*.—The Lavers are almost the only *Confervaceæ* ever used for human food.

CONFESS, v. *kõn-fěs'* [F. *confesser*—from L. *confessārī*, to confess: L. *confessus*, fully or entirely acknowledged—from *con*, *fatěõr*, I confess, I own: It. *confessare*, to confess]: to admit or own: to acknowledge, as a crime or fault; to disclose or avow; to admit or assent to as true; to hear the confession of another, as a Rom. Cath. priest does—also, to make the confession. CONFES'SING, imp. CONFESSED', pp. *-fěst'*: ADJ. avowed; undenied; clear. CONFES'SION, n. *-fěsh' ùn* [F.—L.]: an open avowal; anything disclosed or acknowledged; profession; the acknowledgment of sins and faults to a priest or spiritual guide; the formulary containing the articles of faith. CONFES'SEDLY, ad. *-sěd-lī*, avowedly; undeniably. CONFES'SANT, n. one who confesses to a priest. CONFES'SIONAL, n. *-fěsh' ùn-āl*, the place where a priest sits to hear confessions. CONFES'SOR, n. [L. *confessor*: F. *confesseur*]: a priest who hears confessions; one who has borne persecution for his profession of Christianity—one who suffers death for his religion is a *martyr*. CONFES'SIONARY, a. *-ěr-ī*, pertaining to confession to a priest. CONFESSION OF FAITH, in the *Scot. Chh.*, the formulated statement of the various doctrines held by that church, which all her clergymen, probationers, and elders must accept and subscribe as the profession of their faith: see CREEDS AND CONFESSIONS.—SYN. of 'confess': to acknowledge; own; avow; admit; grant; concede; assent; recognize; attest; exhibit; prove; disclose; reveal.

CONFESSION, in Law: the admission of guilt by an accused person. Confessions in course of judicial proceedings before a court are judicial confessions; made elsewhere, they are extra-judicial. In England, proof of C. is sufficient to warrant a jury in convicting without more evidence; in Scotland, some corroborating circumstance must be proved; and in the United States, the main body of the crime must be proved in order to conviction. A C. is admissible as evidence, but it must have been voluntary, made without any promise or threat to induce it. As to C. on trial, see PLEA OF GUILTY: as to C. before the examining magistrate, see DECLARATION.

CONFES'SION, in Roman Catholic Theology: declaration of sins to a priest in order to obtain absolution. The practice of C. is believed by Rom. Catholics to be of divine institution, founded on the power of binding and loosing from sin conferred on the apostles by Christ (Matt. xvi. 19;

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xviii. 18; John xv. 22, 23). The power of binding *or* loosing, being in the view of its advocates judicial and discretionary, presupposes a confession of sins in order to its being judicially exercised. Although some allusions to C. are found in the New Testament, Rom. Catholics do not allege any formal scriptural precept for it, but they contend that the above passages contain an implied precept, which they further support by testimonies of the Fathers. Though the apostle James recommends that Christians should confess their 'faults one to another,' yet formal and open C. appears to have been first required in cases where persons guilty of gross apostasy desired to be again received into the church. Motives of piety, and a wish to avoid the scandal of open C., led gradually to the institution of private C. in the hearing of a priest. In and after the 5th c., such C. was made an indispensable preparation for receiving the sacrament of the Lord's Supper. Open or public C., which was part of the discipline of public penance, ceased when that discipline went into disuse: see COMMUNION. Private C. has been retained, and though its defenders hold it to have been at all times in use, a general law was enacted by the fourth Council of the Lateran (can. xxi., *Omnis utriusque sexus*), requiring that every Christian who has attained the years of discretion should confess to a priest approved for the purpose, at least once in the year; and they insist that this law was by no means the origin of the precept of C., but merely defined the time of its fulfilment. C. is one of the three 'acts of the penitent'—contrition, confession, and satisfaction—which the Council of Trent declares to be parts of the sacrament of penance. The sinner is required to confess each and every mortal sin, in thought, word, and deed, which, after diligent examination of his conscience, has occurred to his memory. He is exhorted, but not required, also to confess venial sins (q.v.), especially if they be habitual. C., in order to be fruitful, must be accompanied by contrition and a purpose of amendment. It commonly embraces the sins committed since the last C.; but may include a longer period, and even the entire life. In the latter case, the C. is called general. It is called 'auricular,' as being made to the private 'ear' of the priest; and is ordinarily spoken, but in cases of necessity may be made in writing, by signs, or even by an interpreter. Priests cannot validly receive confessions in any place without the 'approbation' of the bishop of the place, which may be given either absolutely or with restrictions. C. is prescribed in the ritual of the Greek, the Russo-Greek, the Coptic, the Syrian, and the other oriental churches. In most of these churches the practice is obligatory, but in some it has gone into disuse. The Lutheran Church professes (according to the 11th art. of the *Augsburg Confession*) 'that private confession must be retained in the church; but that full and particular statement of *all* sins is not necessary, because, according to Psalm xix. 12, it is impossible.' In the Apology of the *Augsburg Confession*, it is said to be 'impious' to abolish the practice of private C. to the priest; but in practice, the

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Lutheran Church has widely departed from these rules. The Reformed Church (in Germany) has always been more inclined to general C.; and the United Church also substitutes for private C. certain devotional exercises previous to communion. The Church of England and the Prot. Episc. Church in America employs a general form of C. and absolution in its morning and evening services, but retains private C. in the rubric for visitation of the sick. Presb., Congl., Bapt., Meth., and other denominations of churches do not recognize it at all as a church ordinance, but only as a private duty and privilege upon occasion. The *Sigillum Confessionis* ('seal of confession'), both in the Rom. Cath. and in the German Prot. Church, means the obligation of a confessor or priest not to divulge the secrets of the confessional. This custom of secrecy is traceable in the 4th and 5th c., but was made binding by Innocent III. in the 12th, and its violation by a priest makes him subject to the severest penalties that can be inflicted by the church: see CONFIDENTIALITY.

CONFESSION, JUDGMENT BY, in Law: judgment against a defendant, on his confessing both the facts and law alleged by the plaintiff. An agreement to confess judgment is a common mode of securing money, but is subject to strict technical regulations.

CONFES'SIONAL: seat or recess in which the priest sits to hear confession in a Rom. Cath. church. It is probable that the confessionals in English churches, previous to the Reformation, like those still in Rom. Cath. use, were slight wooden erections; because they have so entirely disappeared that their form is a matter of dispute among ecclesiologists. Confessionals seem to have been not always used, as in an old painting on the walls of St. Mary's Chapel, Winchester, a woman is represented kneeling to a priest, who is seated in his stall. The confessional commonly has a door in front for the priest to enter by, and an opening on one or both sides, like a small window, with a grating of wire or zinc, for the penitents to speak through.

CONFESSION AND AVOIDANCE, in Pleading at Common Law: admission of the allegation of the opposite party, but with the addition of some circumstance which deprives it of legal effect, as, for instance, the admitting that an assault was committed, as alleged, but with the assertion that it was committed in self-defense: see PLEADING.

CONFIDE, v. *kōn-fīd'* [mid. L. and It. *confidārē*—from L. *confidērē*, to trust confidently—from *con*, *fidērē*, to trust: F. *confier*]: to trust in firmly; to rely on; to believe in; to commit to the charge of: to deliver into the possession of another for safe keeping. CONFIDING, imp.: ADJ. trusting; disposed to put confidence in. CONFIDED, pp. CONFIDENCE, n. *kōn'fī-dēns*, firm trust in another; hope combined with faith; that in which trust is placed; reliance; security; boldness; courage. CONFIDENT, a. *-dēnt* [F. *confident*—from L. *confiden'tem*, trusting confidently]: having full belief;

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trusting; relying on one's own ability; positive; bold to excess: N. one intrusted with secrets or important matters, as a servant or friend. CON'FIDANT', n. masc. CON'FIDANTE', n. fem. -*dănt'* [F.]: a bosom-friend, chiefly in love affairs and the lighter matters of life. CON'FIDENTLY, ad. -*děnt-lĭ*, with firm trust; undoubtingly. CON'FIDEN'TIAL, a. -*děn'-shĭl*, spoken or written in confidence; trusty; faithful. CON'FIDEN'TIALLY, ad. -*lĭ*. CONFID'ER, n. -*dér*, one who. CONFID'INGLY, ad. -*lĭ*. PRIVATE AND CONFIDENTIAL, words upon a written or printed communication intimating the desire of the sender that the receiver should not divulge its contents.—SYN. of 'confide': to commit; intrust; consign; —of 'confidence': hope; expectation; trust; assurance.

CONFIDENTIALITY, in Law: character attributed to such communications as the law holds privileged to remain undisclosed. The common instance of C. is in the case of those communications between a client and his legal adviser, which neither of them can be called on to produce in a suit, and upon which no action of damages can be founded. The privilege extends to letters written by the lawyer to his client, relating to a suit which is either pending or contemplated; but to what extent it covers other business communications, is a question on which there are conflicting authorities. In England, the rule has received a liberal interpretation (Dickson on *Evidence*, p. 930). The same privilege is extended to the communications of several parties, or of their counsel and agents engaged on the same side of a cause, and made with a view to their joint prosecution or defense. Where a party placed in such circumstances is examined as a witness, he will be entitled to decline answering questions as to such communications, and even bound to do so, unless the privilege is waived by the other party interested (Dickson, p. 924). The principle on which this privilege rests, as stated by Stephen (*Com.* iii. 466), is that these communications are made 'on such lawful occasions as tend to rebut the *primâ facie* inference of malice, which otherwise arises from a statement derogatory to private character.' It is on the same principle that a master is protected who, when called upon for the character of a servant, charges him with a theft. In such cases, in order to support an action, there must be proof of malice beyond the uttering of the words. With a view to preserving the freedom of domestic intercourse, and from a belief that the testimony of near relatives in favor of each other was worthless, and that the only effect of examining them against each other was to tempt them to commit perjury, it was formerly the habit to reject them as witnesses. The practice in England, for a long time, however, has been to admit, and even to exact their evidence, making allowance, in appreciating its value, for the circumstances in which they are placed; and the only exceptions to the now almost universal admissibility of witnesses, are, that neither the parties themselves, nor their husbands or wives, shall be competent or compellable to give evidence in criminal proceedings in which they are accused, nor to answer questions in a civil

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suit tending to criminate themselves or each other, or to reveal matters which they have communicated to each other during marriage. The C. of such communications remains though the marriage has been dissolved by death or divorce (Dickson, p. 924).

From very early times, so early, it is said, as the 4th and 5th c., the 'Seal of Confession' in the church (*sigillum confessionis*) was held to be inviolable, and no priest could be called upon, under any circumstances, to reveal facts which had been confided to him under its sanction. To this the case of treason was an exception, in England, even in Rom. Cath. times (Best's *Law of Evidence*, p. 737). In Rom. Cath. countries, the privileges of the confessional remain unaltered; and several of the Prot. churches of Germany having sanctioned the practice of confession, the privilege of secrecy has been extended to it, as a necessary consequence, by the civil power. In those states, however, in addition to imposing far lighter penalties upon clergymen who break the seal, the duty of doing so is enforced in all cases in which the confession has reference to a future crime. In England, no special privilege whatever is extended to the Rom. Cath. confessional; and the question as to how far a confession made to a clergyman for the purpose of obtaining spiritual comfort and consolation is protected, was long considered doubtful. The rule has, however, been settled for some time that no clergymen of any religious persuasion are entitled to the same privilege as legal advisers; though it has often been advocated as advisable to extend the rule to clergymen, including Rom. Cath. priests. By a statute of the state of New York, ministers of the Gospel and priests of every denomination, are forbidden to disclose confessions made to them in their professional character; and a similar statute exists in Missouri. It has been decided in England, that communications to a medical man, even in the strictest professional confidence, are not protected from disclosure (Best, 734); but a contrary rule has been adopted in several of the states of America (1 Greenl., § 248, note).

CONFIDENT PERSON: see INSOLVENCY.

CONFIGURE, v. *kõn-f'ig'ūr* [F. *configurer*, to give form to—from L. *configurāre*, to form in accordance with—from L. *con*, *figūrā*, a form or shape: It. *configurare*]: to dispose or form in a certain figure or shape. CONFIGURING, imp. CONFIGURED, pp. *-ūrd*. CONFIGURATION, n. *-ū-rā'shūn* [F.—L.]: external form; shape or outline of a body; aspects or arrangement.

CONFINE, v. *kõn-f'īn'* [F. *confiner*, to restrain within a place, to touch the borders of—from It. *confinare*—from L. *confīnis*, bordering on—from L. *con*, *fīnis*, a boundary or limit: F. *confins*, confines, borders]: to restrain within limits; to imprison; to shut up; to be much at home or in retirement; to tie or make fast; to bind. CONFINING, imp. CONFINED, pp. *kõn-f'īnd*. CONFINER, n. one who. CONFINABLE, a. *-nā-bl*, that may be limited. CONFINE, a. *kõn'fīn*, bordering on; adjacent. CONFINES, n. plu. joint

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limits; adjacent parts; boundaries. **CONFINE'MENT**, *n.* restraint within limits; imprisonment; seclusion; voluntary restraint in any way; restraint by sickness, applied to a woman in child birth.—**SYN.** of 'confine, *n.*': border; boundary; bound; frontier; precinct; limit; purlieu;—of 'confine, *v.*': to circumscribe: inclose; limit; bound; restrict; include; environ; surround; restrain; encircle; encompass;—of 'confinement': restraint; imprisonment; captivity; incarceration; bondage; slavery; immuring; servitude; seclusion.

CONFIRM, *v.* *kõn-fèrm'* [*F. confirmer*, to confirm—from *L. confirmāre*, to establish—from *con*, *fīrmāre*, to strengthen; *fīrmus*, firm: *It. confirmare*]: to add strength to; to fix or settle; to assure or ratify; to admit to full Christian privileges by the laying on of hands. **CONFIRM'ING**, *imp.* **CONFIRM'INGLY**, *ad.* *-lī*, in a manner to strengthen or make firm. **CONFIRMED'**, *pp.* *-fèrmā'*: **ADJ.** settled; fixed. **CONFIRM'ATORY**, *a.* *-ā-tēr-ī*, serving to confirm; affording additional proof. **CONFIRM'ER**, *n.* one who or that which confirms. **CONFIRM'ABLE**, *a.* *-ā-bl*, that may be established or made more firm. **CONFIRMATION**, *n.* *kõn'fèr-mā'shūn* [*F.—L*]: the act of fixing, settling, or making more certain; that which confirms: evidence; proof; convincing testimony; admission to full Christian communion by laying on of the hands of the bishop. **CONFIRM'ATIVE**, *a.* *-ā-tīv*, having the power of confirming. **CONFIRM'ATIVELY**, *ad.* *-lī*. **CONFIRMA'TOR**, *n.* *-mā'tēr*, he that affirms or attests. **SYN.** of 'confirm': to corroborate; strengthen; establish; fix; settle; verify; assure.

CONFIRMATION, in Church Usage: rite of admission to full Christian communion by laying on of the hands of the bishop. In the anc. church, the rite so named was administered immediately after baptism if the bishop happened to be present at the solemnity, which is still the custom in the Greek and African churches. In the Rom. Cath. Church, for the last 300 or 400 years, the bishops have interposed a delay of seven years after infant baptism; in the Lutheran Church the rite is usually delayed 13 to 16 years; and in the English Church, 14 to 18 years. There is, however, in the latter church no limit to the period. C. may be administered at an earlier period, if a family is about to emigrate; and persons are confirmed at the age of 60 or 70, if they choose. The ceremony consists in the imposition of hands by the bishop, accompanied by an invocation of the Holy Spirit as the comforter and strengthener. But both in the Lutheran and English churches the ceremony is made the occasion of requiring from those who have been baptized in infancy, a renewal in their own persons of the baptismal vow made for them by their godfathers and godmothers, who are thereby released from their responsibility. None can partake of the Lord's Supper, in these churches, unless they have been confirmed. In the Rom. Cath. Church, C. is held to be one of the seven sacraments, and in its administration, unction and the sign of the cross are used; and

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instead of the imposition of hands, the person confirmed receives a little blow on the cheek, to remind him that he must in future suffer affronts for the name of Christ. In the English Thirty-nine Articles, C. is declared not to be one of the sacraments, and the above ceremonies have been discontinued since the Reformation—In non-prelatical churches, the term C. is sometimes applied to the candidate's own public act of confirming or adopting as his own the act and faith of others who have formerly caused him to be baptized.

CONFIRMATION, in English Law: grant by the party having right to land of the right that is in him to the party having possession. Confirmation, in Scots law, is the form in which a title to administer is conferred on the executor of a person deceased.

CONFISCATE, v. *kõn'f'is-kāt* or *kõn-f'is'kāt* [L. *confiscātus*, confiscated—from *confiscārē*, to transfer to the state treasury—from *con*, *fiscus*, a basket, a money-bag: It. *confiscare*]: to forfeit to the public treasury, as the goods or estate of a rebel or traitor. **CONFISCATING**, imp. **CONFISCATED**, pp. **CONFISCATOR**, n. *-tēr*, one who. **CONFISCABLE**, a. *-kā-bl*, that may be confiscated. **CONFISCATION**, n. *-kā'shŭn* [F.—L]: the act of forfeiting or adjudging lands or goods to the public treasury: see **ESCHEAT**. **CONFISCATORY**, a. *-f'is'kū-tēr-ī*, having the character of confiscation; consigning to forfeiture.

CONFIX, v. *kõn f'iks'* [L. *con*, and *fix*]: in *OE.*, to fix down; to fasten. **CONFIXING**, imp. **CONFIXED**, pp. *kõn-f'ikst*. fixed down.

CONFLAGRATION, n. *kõn'flā-grā'shŭn* [F. *conflagration*—from L. *conflagrātiōnem*, a burning, a setting on fire—from *con*, *flagrārē*, to blaze; *flagrātus*, blazed, burned: It. *conflagrare*]: a great fire; a burning of any great mass, as houses or a forest. **CONFLAGRATIVE**, a. *tīv*, causing conflagration.—**SYN.** of 'conflagration': fire; flame; combustion; blaze; ignition.

CONFLICT, n. *kõn'flikt* [L. *conflictus*, a striking of one thing against another—from *con*, *fliktus*, a striking or dashing against: It. *confitto*: F. *conflit*]: a dashing or striking together of two bodies; a contest; a battle; strife; contention; distress; agony: V. *kõn-flikt'*, to strike or dash against; to strive or struggle together; to contend; to fight. **CONFLICTING**, imp.: **ADJ.** opposing; contradictory. **CONFLICTED**, pp. **CONFLICTIVE**, *-flikt' tīv*, tending to conflict.—**SYN.** of 'conflict, n.': contest; combat; struggle; collision; strife; contention; battle; fight; agony;—of 'conflict, v.': to struggle; contest; contend; fight; battle; resist; strive; combat.

CONFLICT OF LAWS: branch of international jurisprudence. On the breaking up of the Roman empire into separate kingdoms, as many systems of jurisprudence, more or less dissimilar, arose, and were administered side by side. But owing to commercial intercourse and intermarriage, many persons held property in more countries

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than one; many possessed two nationalities by birth, and more than two—if nationality could be acquired by residence and interest in a foreign state. In such circumstances, it often became an object of utmost importance to individuals to ascertain, and of the greatest difficulty to lawyers to determine, whether the laws of one state or of another were to govern questions of sale, succession, status, and the like. As no state could vindicate its jurisdiction beyond its own boundaries, without being guilty of an act of aggression, it became indispensable that certain general rules should be fixed upon to prevent the danger of national hostilities on trifling occasions. The elaboration of these rules constituted a new branch of jurisprudence, to which the title of the C. of L. has been given, but which would be more accurately described as the rules for the solution of that conflict. From the partially independent character which belongs to the different states which constitute the American Union, the labors of the continental jurists in international jurisprudence have been carefully adapted to the requirements of that country; consequently this department has there had greatest attention. By American writers, the term C. of L. has usually been confined to that branch of the law of nations which treats of the rights and duties of private individuals, and it is therefore synonymous with what elsewhere is called private international law: see INTERNATIONAL LAW, PRIVATE: COMITY OF NATIONS. See Story's *Conflict of Laws*.

CONFLUENT, a. *kõn'flû-ěnt* [F. *confluent*—from L. *conflũens* or *confluen'tem*, a flowing together—from *con*, *flũens*, flowing: It. *confluente*]: flowing together; meeting; joining, as streams running into each other; running into each other and spreading, as small-pox; gradually uniting so as to form one body. **CON'FLUENCE**, n. *-ěns*, the junction or meeting together of two or more streams of water; the place where they meet; the running together or concourse of people in a place. **CON'FLUX**, n. *-flũks* [L. *fluxus*, flowing, fluid]: a flowing together; a crowd; a multitude collected.

CONFORM, v. *kõn-fawrm* [F. *conforme*, conformable—from L. *conformārē*, to form, to shape—from *con*, *formā*, shape: It. *conformare*—lit., to make of the same form or shape with another]: to comply with or yield to; to act according to; to comply with or obey; to make similar or like; to reduce to a like form or shape; to make agreeable to: **ADJ.** made to resemble; resembling; like; similar, as *conform* to pattern. **CONFORM'ING**, imp. **CONFORMED'**, pp. *-fawrm'd'*. **CONFORM'ER**, n. one who. **CONFORM'ABLE**, a. *-ă bl*, having the same form or shape with another; like; resembling; corresponding; suitable; compliant; in *geol.* applied to strata or groups of strata lying one above another in parallel order. **CONFORM'ABLY**, ad. *-blĩ*. **CONFORM'ABILITY**, n. *-bĩl'ĩ-tĩ*, capability of becoming conformable. **CONFORMATION**, n. *kõn'fõr-mă'shũn* [F.—L.]: the act of conforming; the particular make or construction of a body. **CONFORM'IST**, n. one who conforms; a member of an

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established church, as distinguished from a dissenter or *nonconformist*. CONFORM'ITY, n. -ĩ-tĩ [F. *conformité*]: correspondence or agreement in form or manner; resemblance; compliance with established forms, etc.

CONFOUND, v. *kõn-fownd'* [F. *confondre*—from L. *confundĕrĕ*, to mingle, to blend—from *con*, *fundĕrĕ*, to pour out: It. *confondere*]: to mingle different things so that they cannot be distinguished; to mix or blend; to confuse or perplex; to astonish or stupefy; to cast down; to terrify; to destroy; to dismay. CONFOUND'ING, imp. CONFOUND'ED, pp.: ADJ. in *familiar slang*, very great; detestable; odious; CONFOUND'ER, n. one who. CONFOUND'EDLY, ad. -lĩ, in *familiar language*, hatefully; shamefully.—SYN. of 'confound': to abash; confuse; baffle; defeat; disconcert; frustrate; discompose; foil; mix; blend; mingle; dismay; astonish; terrify; intermingle.

CONFRATERNITY, n. *kõn'frä-tér'nĩ-tĩ* [F. *confraternité*—from L. *con*, *frater'nitas*, brotherhood: It. *confraternita*]: a brotherhood; a society or body of men—generally a religious one.

CONFRÈRES, n. plu. *kõng-frärz'* [F. *confrère*, a professional companion—from *frère*, a brother]: brothers of the same monastery; associates; colleagues.

CONFRONT, v. *kõn-frũnt'* [F. *confronter*—from L. *con*, *frontem*, the forehead, front: It. *confrontare*]: to stand face to face; to set face to face; to bring into the presence of; to oppose. CONFRONT'ING, imp. CONFRONT'ED, pp. CONFRONT'ER, n. one who. CONFRONTÉ, in *heraldry*, facing or fronting one another: combatant.

CONFUCIUS.

CONFUCIUS, n. *kǒn-fū'shǐ-ŭs* or *kǔng-fū'tzē*: celebrated Chinese philosopher, abt. B.C. 500, whose works constitute the sacred books of the Chinese. CONFU'CIAN, a. *-shǐ-ăn*, of or relating to Confucius. CONFU'CIAN, or CONFU'CIAN-IST, n. *-ăn-ĭst*, a follower of or believer in. CONFU'CIANISM, n. *-ăn-ĭzm*, the moral and political science taught by Confucius and his disciples. This Chinese sage (B.C. 551, June 19—479) was born at Shang-ping, near the town of Tséuse, in the petty kingdom of Lu. His own name was Kong, but his disciples called him Kong-fu-tse (i.e. 'Kong, the Master or Teacher'), which the Jesuit missionaries Latinized into Confucius. His mother used to call him Kiéu ('little hillock'), because he had an unusual elevation on the top of his forehead, with which he is often represented. Various prodigies are reported in legend as forerunners of his birth. An illustrious pedigree also has been invented for him by his fond disciples, who derive his origin from Hoang-ti, a mythological monarch of China more than 2,000 years B.C. His father, Shuh-leang-ho, died when C. was only three years of age, but he was very carefully brought up by his mother, Yan-she, and from his earliest years showed extraordinary love of learning and veneration for the ancient laws of his country. The prudence, rectitude, and philosophic gravity of his conduct while a boy, also are highly extolled by Chinese writers. At the age of 17, he was made an inspector of the corn-marts, and distinguished himself by his industry and energy in repressing fraud, and introducing order and integrity into the whole business. When only 19 years old, C. married, but divorced his wife four years after marriage, that he might have more time for study and the performance of his public duties. C. was next appointed inspector-gen of pastures and flocks, and the result of his judicious measures, we are told, was a general improvement in the cultivation of the country and the condition of the people. The death of his mother in his 23d year, interrupted for a time his administrative functions, and gave occasion to the first solemn and important act of C. as a moral reformer. According to the ancient, but then almost forgotten laws of China, children were obliged to resign all public employments on the death of either of their parents; and C., desirous of renewing the observance in his native land of all the practices of venerable antiquity, did not fail to conform to this long neglected enactment. The solemnity and splendor of the burial ceremony with which he honored the remains of his mother (another old custom which had fallen into disuse), struck his fellow-citizens with astonishment, and they determined, for the future, to bury their dead with the ancient honors. Their example was followed by the neighboring states, and the whole nation, except the poorest class, has continued the practice to the present day. C. now came to be looked upon as an authority in regard to the past, and ventured to speak as such. He inculcated the necessity of stated acts of homage and respect toward the dead, either at the grave, or in a part of the dwelling-house con-

secrated for the purpose. Hence, 'the hall of ancestors,' and anniversary feasts of the dead, which now distinguish China as a nation. C. did not end here. He shut himself up in his house to pass in solitude the three years of mourning for his mother, the whole of which time he dedicated to philosophical study. We are told that he reflected deeply on the eternal laws of morality, traced them to their source, imbued his mind with a sense of the duties which they impose indiscriminately on all men, and determined to make them the immutable rules of all his actions. Henceforth, his career is only an illustration of his ethical system. He commenced to instruct his countrymen in the precepts of morality, exhibiting in his own person all the virtues he inculcated on others. Gradually his disciples increased, as the practical character of his philosophy became more apparent. After his 'years of mourning' and meditation were over, C. travelled through various states, in some of which he was employed as a public reformer. On his return to Lu, his reputation was very great, not less than 500 mandarins being among his followers. In fact, it is to be observed, that generally C.'s disciples were not the young and enthusiastic, but men of middle age, sober, grave, respectable, and occupying important public situations. This fact throws light both on the character and design of his philosophy. It was *ethical*, not *religious*, and aimed exclusively at fitting men for conducting themselves honorably and prudently in this life. C. now divided his scholars into four classes: to the first, he taught morals; to the second, rhetoric; to the third, politics; and to the fourth, the perfection of their style in written compositions. While residing at Lu, C. worked industriously in the revision and abridgment of those works which constituted the principal monuments of that ancient literature about which he was always speaking in the language of unbounded reverence.

An unworthy change of magistrates, however, in the kingdom of Lu induced C. to recommence his travels. He went first to Chen, where he was not much appreciated; afterward to Tze, where he became one of the king's ministers, but was dismissed after a short time through the intrigues of cunning courtiers. On his return to Lu, he was appointed 'governor of the people.' For a time, his inflexible virtue awed them into morality, and the delighted monarch conferred the highest dignities on the philosopher; but the arrival of a bevy of beautiful sirens from a neighboring state, which hated the increasing purity of Lu, suddenly overturned the edifice of morality which C. was constructing; and in despair, he again went abroad in search of less vacillating disciples. His later wanderings were very unpropitious; state after state refused to be improved. He was in some instances persecuted; once he was imprisoned, and nearly starved; and finally, seeing no hope of securing the favorable attention of the mass of his countrymen while alive, he returned in extreme poverty to his native state, and spent his last years in the composition of literary works by which posterity at least

might be instructed. He died in the 70th year of his age. Immediately after his death, and notwithstanding the general demoralization of his contemporaries, C. began to be venerated, and succeeding ages adorned his name with golden epithets. His family, which has continued to the present day, through more than 70 generations, in the very place where their ancestor lived, is distinguished by various honors and privileges, being the only example of hereditary aristocracy in China, while in every city down to those of the third order there is a temple to his honor. The 18th day of the second moon is kept sacred by the Chinese as the anniversary of his death.

The system of C. is, rightly considered, the most faithful expression of the Chinese mind, though it is neither the oldest of the extant Chinese religions, nor that which can claim the greatest number of adherents. We have termed it a *religion*, but it ought rather to be regarded as a system of social and political life built upon a slight foundation of philosophy. It contains no trace of a personal God. There are, indeed, a number of allusions to a certain heavenly agency or power, *Shang-te*, whose outward emblem is *Tien*, or the visible firmament; but this *Shang-te*, in the opinion of the most enlightened Chinese scholars, is nothing more than a verbal personification of 'the ever-present Law and Order and Intelligence, which seem to breathe amid the wonderful activities of physical creation, in the measured circuit of the seasons, in the alternation light and darkness, in the ebb and flow of tides, and in the harmonious and majestic revolutions of the heavenly bodies.' Sometimes, indeed, C. uses language that might seem to imply more than this. In one of the sacred books *Shang-te* is depicted as possessing a high measure of intelligence, and exercising some degree of moral government; he punishes the evil, rewards the good, and is honored with sacrifice. Immediately afterward, however, we are informed that his retinue consists of the six *Tsong*, the mountains, the rivers, and the spirits generally. Elsewhere, the people are enjoined 'to contribute with all their power to the worship of *Shang-te*, of celebrated mountains, of great rivers, and of the 'shin' (spirits) of the four quarters.' Hence we are forced to the conclusion, that C. no more believed *Shang-te* to be a personal being, than he believed the mountains to be such; and that in describing this Power as possessed of intelligence, and as exercising a moral government, he simply spoke in a pictorial and symbolic way of the laws that govern all things. Perhaps, too, a dim consciousness of a mysterious inexplicable *life* pervading the phenomena and operating through the laws of nature—a feeling probably absent from no human soul—influenced C. to use words indicating the Divine Being as personal which his understanding would not have interpreted in a literal manner. His highest conception of God, therefore, only reminds one of the *anima mundi* of the classical philosophy; and even this conception is not always present. More than once his language indicates doubt as to the existence of this great abstraction, and he

CONFUCIUS.

occasionally 'reprimanded his disciples for prying into matters unconnected with their duties and lying far beyond their depth.' In fact, from metaphysics and theology he equally shrunk. The idea of a creation out of nothing by an infinite and eternal Father for the revelation of himself in love, or even for the manifestation through material symbols of his wisdom, power, and majesty, to those intelligences whom in his beneficent condescension he had created, is utterly unknown to Confucius. He looked on the universe rather as a stupendous, self-sustaining mechanism. He thought that all things existed from eternity, and were subject to a flux and reflux, in obedience to initial laws which some stern necessity had impressed upon them, how and why, we know not. Thus, chaining to the earth, as it were, those thoughts that wander through eternity; crushing, in fact, every spiritual tendency of human nature, by repudiating all speculation, and well-nigh all philosophic investigation of every kind, C. strove to direct the attention of men to the duties of social and political life. 'I teach you nothing,' he says, 'but what you might learn yourselves—viz., the observance of the three fundamental laws of relation between sovereign and subject, father and child, husband and wife; and the five capital virtues—universal charity, impartial justice, conformity to ceremonies and established usages, rectitude of heart and mind, and pure sincerity.' This, in fact, contains the whole doctrine of C.; and it was unquestionably well suited to the prosaic, practical, and conservative mind of the Chinese. It was only by the strict and faithful performance of appointed duties, and by the cultivation of proper feelings and sentiments, that C. believed wisdom or knowledge could be obtained. He seems to have entertained no doubt that the great virtues of charity, justice, and sincerity might be developed without the help of any spiritual or religious faith, by a species of mechanical discipline. They were natural to the mind, he thought, just as their opposites were unnatural. Here, again, we find a striking example of that easily satisfied unphilosophic *materialism* which characterized C., and has since leavened the Chinese nation so thoroughly. He virtually says: 'Just as am I forced to accept the phenomena of the universe as *facts*, though I can give no explanation of their origin, so am I forced to accept the phenomena of the human mind as *facts*, though I can give no explanation of *their* origin.' C. finds evil and good, wisdom and folly, in the hearts of men. He cannot help making this distinction; some things are bad, others good; such is the oracular utterance of his conscience, which he terms 'the light of intelligence.' He does not, however, advance a step further, and make this moral conviction the basis of a religion. His 'good' has no connection with any God. It exists; we are forced to recognize it as such; that is all we can know. Cultivate it. Those great laws of nature about which we know nothing except that they are realities, are on its side. Do not foster what you know to be mean and unworthy, for 'he who offends against Heaven has no one

to whom he can pray.' 'Imperial Heaven will assist only virtue.' From this point of view, C. taught a simple and comprehensive rule of life, both private and public. First, let every man govern himself according to the sacred maxims; then his family according to the same; and finally, let him render to the emperor, who is the father of his people, such filial obedience as he demands of his own children, and worship him with the same veneration as he does his own ancestors; for thus will domestic peace, social order, and the safety of the commonwealth be preserved. To further this end (and in accordance with his belief that by instruction in the sacred precepts everything desirable could be accomplished), C. inculcated the necessity of universal education, and, in consequence, schools are diffused through the length and breadth of the empire, penetrating even to the remotest villages, where the maxims of the philosopher are taught, whose influence is thus perpetuated from generation to generation.

Confucianism appeals to 'practical' men. It lauds the present world; rather doubts, than otherwise, the existence of a future one; and calls upon all to cultivate such virtues as are seemly in citizens—industry, modesty, sobriety, gravity, decorum, and thoughtfulness. It also counsels men to take part in whatever religious services have been established from of old. 'There may be some meaning in them, and they may affect your welfare in a way you do not know of. As for the genii and spirits, sacrifice to them: I have nothing to tell regarding them, whether they exist or not; but their worship is part of an august and awful ceremonial, which a wise man will not neglect or despise.' Confucianism, in consequence, almost immediately after the death of its author, became the religion of the state, to which it has proved an admirable ally; its theory of government being nothing less than a paternal despotism. The entire literary class in China, are also followers of C., and, in fact, for many ages the literature of China has consisted exclusively of commentaries on the five canonical books which C. professed to merely abridge, and of four others, which were composed partly by himself and partly by his disciples, and which, together with the former, constitute the nine Chinese classics.

The five canonical books are the *Yih-king*—originally a cosmological essay, now, strangely, regarded as a treatise on ethics; the *Shu-king*—a history of the deliberations between the emperors Yaou and Shun, and other personages, called by C. the *Ancient Kings*, and for whose maxims and actions he had the highest veneration; the *Shi-king*—a book of sacred songs, consisting of 311 poems, the best of which every well-educated Chinaman gets by heart; the *Le-king*—the Book of Rites, the foundation of Chinese manners, prescribing, as it does, the ceremonies to be observed in all the relationships of life, and the great cause of the unchangeableness and artificiality of Chinese habits; and the *Chun-t sien*—a history by C. of his own times, and those which immediately preceded him. The first of the 'Four Books' is the *Ta-hëo*, or 'Great Study,' a political work, in which

every kind of government, from the domestic to the imperial, is shown to be essentially the same—viz., parental; the second is *Chung-yung*, or 'the Invariable in the Mean,' a book devoted to teaching men what is 'the due medium,' or the golden mean, to observe in their conduct; the third is the *Tun-yu*, or 'Philosophical Dialogues,' containing the recorded conversations of C., and the best book for obtaining a correct knowledge of his character; and the fourth is the *Hsi-tse*, written by Meng tse, or Mencius, who died B.C. 317, and who was by far the greatest of the early Confucians. The main object of this work is to inculcate philanthropic government.

It is proper to observe, in conclusion, that in the course of centuries the defects of the system of C. made themselves felt even to the unspiritual Chinese mind; and the necessity of 'speaking out far more plainly, not on matters of finance, economy, and etiquette, but on the nature of the world and its inhabitants, and the true relation of the seen and temporal to the absolute and the all-embracing, was recognized. The philosopher who guided this great movement to a prosperous close was Tehu-he (died A.D. 1200); termed by European scholars the Chinese Aristotle, and regarded by all the governing class in China as 'the prince of science.' His innumerable works are laboriously studied by the higher literary class, and are considered the standard of metaphysical or religious orthodoxy; but the mass of ordinary Confucians never pass beyond the ceremonial ethics of their master.

See CHINESE EMPIRE. See Legge's *Life and Teachings of C.* (1867), and *Religions of China* (1880); Douglas's *Confucianism and Taouism* (1880).

CONFUSE, v. *kōn-fūz'* [F. *confus*, confused—from L. *confusus*, disordered—from *-con*, *fusus*, poured out, diffused: It. *confuso*]: to mix or disorder things so that they cannot be distinguished; to render indistinct; to perplex; to throw into disorder; to agitate by surprise or shame. CONFUSING, imp. CONFUSED, pp. *kōn-fūzd.* CONFUSEDLY, ad. *-fū'zēd-lī.* CONFUSEDNESS, n. *-zēd-nēs*, a state of confusion; want of distinctness. CONFUSION, n. *-fū'zhūn*, an irregular mixture or medley; disorder; indistinctness; astonishment; distraction of mind; agitation; in *OE.*, destruction; overthrow.—SYN. of 'confuse': to abash; disorder; confound; disconnect; distract; obscure; perplex;—of 'confusion': disorder; disturbance; commotion.

CONFUTE, v. *kōn-fūt'* [F. *confuter*—from L. *confutārē*, to cool down, to repress—from *con*, *fūtum*, a vessel to sprinkle water: It. *confutare*—lit., to cool down by pouring cold water on]: to prove to be wrong or false; to convict of error by argument or proof. CONFUTING, imp. CONFUTED, pp. CONFUTER, n. one who. CONFUTABLE, a. *-tū-bl*, that may be confuted; capable of being shown false. CONFUTATION, n. *-fū-tū'shūn*, the act of disproving. CONFUTANT, n. one who confutes or undertakes to confute.—SYN. of 'confute': to refute; oppugn; impugn; disprove; overthrow; overcome,

CONGAREE RIVER—CONGENITAL.

CONGAREE RIVER, *kǒng-ga-rě'*: in S. Car.; abt. 50 m. long between its formation near the middle of the state by the confluence of the Broad and Saluda rivers, and its confluence with the Wateree, after which the two take the name of Santee. It is navigable by steam-boats.

CONGÉ, n. *kǒng'zhā* [F. *congé*, permission, leave of absence—from OF. *comjat*—from mid. L. *comñātus*, permission, authorization: L. *commēātus*, leave of absence—from *commēō*, I come and go]: leave; farewell; parting ceremony; bow: V. to take leave by a bow or other mark of civility or respect. CON'GEED, pp. *-zhād*. CONGÉ D'ÉLIRE, *-dā-lēr'* [F. *congé*, leave; *élire*, to choose]: the sovereign's warrant or permission to a dean and chapter in the Church of England to proceed to the election of a bishop to a vacant see. Since the passing of the statute 25 Henry VIII. c. 20, the *C. d'élire* has always been accompanied by a letter-missive from the king, mentioning the person to be elected by name, so that in reality it is a nomination equivalent to an appointment by the crown. If the dean and chapter delay the election beyond 12 days, the nomination is effected by letters-patent from the crown; if they delay beyond 20 days, or elect another than the person named, they incur the penalties of a *præmunire*, i.e., loss of civil rights, forfeiture of their goods, and imprisonment during the royal pleasure.—Stephen's *Commentaries*, vol. iii. p. 8. TO GIVE ONE HIS CONGÉ, to get rid of one by dismissal.

CONGEAL, v. *kǒn-jěl'* [F. *congeler*—from L. *congělārē*, to congeal—from *con*, *gelu*, frost: It. *congelare*]: to change from a fluid to a solid state, as by cold or loss of heat; to fix or stagnate; to produce a sensation of cold or shivering by some external cause. CONGEAL'ING, imp. CONGEALED', pp. *-jēld'*. CONGEAL'ABLE, a. *-ă-bl*, that can be thickened or made solid. CON'GELA'TION, n. *-jě-lā'shŭn* [F.—L.]: the act of converting a fluid into a solid, as by cold. CONGEAL'MENT, n. *OE.*, a clot; a concretion.

CONGEE, n. *kǒn-jě'*: in *China*, rice-porridge, or thick rice-gruel; in *India*, a jail or lock-up.

CONGENER, n. *kǒn'je-nēr* [L. *congēner*, of the same species or kind—from *con*, *genus*, a kind: It. *congenere*: F. *congénère*]: one of the same origin or kind. CON'GENER'IC, a. *-jě-nēr'ík*, of the same kind or nature.

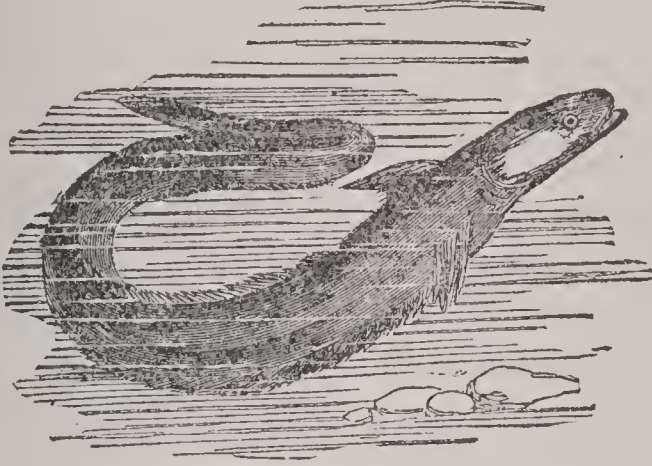
CONGENIAL, a. *kǒn-jě'ně-ăl* [L. *con*, *gēniālis*, jovial, genial; *gēniūs*, natural disposition, fondness for good living]: partaking of a similar or kindred nature; suitable; kindred; similar; belonging to the nature. CONGE'NIALLY, ad. *-lŭ*. CONGE'NIAL'ITY, n. *-ŭ-tŭ*, state of having a similar or kindred nature; state of being congenial.

CONGENITAL, a. *kǒn-jě'n'ŭ-tăl* [L. *congēnītus*, born together—from *con*, *genītus*, brought forth, produced: It. *congenito*]. Of the same birth; born with another; existing from birth, as a disease or some deformity with which one is born.—Congenital diseases are acquired during pregnancy, and are hereditary, or non-hereditary; among the hereditary from

CONGER—CONGEST.

either parent are some chronic diseases of the skin, also syphilis. Small-pox may be communicated by the mother: among the non hereditary is hydrocephalus.

CONGER, n. *kǒng'gèr*, or CONGER-EEL [L. *conger*: It. *congro*: F. *congre*]: genus of marine fishes of the eel family (*Murænidae*), having the tail more elongated and pointed than the fresh-water eels, the dorsal fin commencing much nearer



Conger-eel.

the head, and the teeth of the upper jaw, although slender, placed so close together as to form a cutting edge. The species are not numerous. One species (*C. vulgaris*), common on the British coasts, is found both among rocks and on banks. Its form much resembles that of a fresh-water eel; its color is brown above, passing into dull white beneath; the fins whitish, edged with black; and the lateral line almost white. It attains a large size, often five or six ft. long, sometimes ten ft., with eighteen inches circumference, weighing more than one hundred pounds. It possesses great strength, and is a formidable antagonist when hauled into a boat by the fisherman's line, or found among the rocks, where it is sometimes left by the retiring tide. Great numbers are taken to be used as food, though not highly esteemed, and consumed chiefly by the poorer classes. The principal C. fishery of Britain is on the Cornish coast, and it is not uncommon for a boat with three men to bring on shore from a ton to two tons as the produce of a night's fishing, the C. being caught most readily during the night; but there are banks off the French coast still more productive. Sand-launces, pilchards, etc., are used for bait. Eel-fishery on the American coasts also is very productive. Some of the smaller species have a more delicate taste. The C. is extremely voracious.

CONGERIES, n. plu. *kǒn-jě'rĭ-ěz* [L. *congĕrĭēs*, a heap, a pile—from *con*, *gĕro*, I bear or bring]: a collection of small particles or bodies forming one mass; a confused heap.

CONGEST, v. *kǒn-jĕst'* [L. *congestus*, pressed together, heaped up—from *con*, *gestus*, carried: It. *congestionē*; F. *congestion*, congestion]: to gather into a mass. CONGEST'ING, imp. CONGEST'ED, pp.: ADJ. containing an unnatural accumulation of blood, or other fluid. CONGEST'ION, n. *-yŭn* [F.—L.]: an unnatural collection of blood, or other fluid,

CONGESTION OF BLOOD.

in any part of an animal body. CONGES'TIVE, a. -tīv, tending or pertaining to congestion.

CONGESTION OF BLOOD, called also Fulness of Blood, Vascular Turgescence, Hyperæmia [*hyper*, excess; *aima*, blood]: 'excess of blood in the vessels of a part with diminished motion of that blood.' Congestions are described as being either *active* or *passive*. But active congestions are always essentially parts of a further morbid process, such as inflammation (q. v.), tumor (q. v.), or softening of texture; while passive congestions are almost always determined by some mechanical cause of obstructed or retarded circulation. It results from this view of its pathology that congestion alone can hardly ever require treatment, or be anything else than one among other indications of disease.

The chief causes of congestion may be classed under two heads: (1) congestion from venous obstruction; (2) congestion from want of tone in the vessels.

1. *Congestion from venous obstruction* is easily illustrated by tying up the arm, as is done before opening a vein, when the veins are compressed more than the arteries. If the ligature is kept on for a sufficient time, the veins swell, the fingers become red, and then livid, and the whole limb is swollen. Cold applied to the surface of the body acts similarly on it, and contracts the veins more rapidly than the arteries, which lie deeper; and the purple color of the hands and face after exposure to cold shows the congested state of the capillaries. 'Congestions,' says Dr. C. J. B. Williams, 'are caused in external organs by an obstruction of the veins leading from them. Thus, congestion of the brain may be produced by a tight cravat or by a tumor pressing on the jugular veins. Efforts of straining, coughing, holding the breath, and asthmatic paroxysms which impede the flow of blood through the lungs, cause congestion in various parts. Tubercles in the lungs cause congestion of that organ. Obstruction to the transit of blood through the liver causes congestion in the abdomen, hemorrhoids, etc.'—*Principles of Medicine*, 2d ed. p. 180.

2. *Congestion from want of tone in the vessels* includes a numerous class of cases. In atony of the vessels generally, as in extreme debility, certain fevers, etc., there is general congestion of the parenchymatous organs—the lungs, liver, etc.—and the blood gravitates to the lowest parts, giving rise to what is termed *hypostatic* congestion of the posterior parts of the lungs, the skin of the back, etc. In other cases, the weakness is local, as when the feet swell after long standing, in consequence of over-distension of the veins. Similarly, a continued stooping posture may occasion headache, giddiness, and the other symptoms of congestion of the brain. Congestive affections of this kind are often mistaken for inflammation, and instead of being treated by tonics, are treated by depletion, which, though affording temporary relief, increases the evil.

Another cause of congestion is over-excitement of the

CONGIUS—CONGLOMERATE.

vessels, and this often occurs at an early stage of inflammation, or as a result of that process.

As to the symptoms and effects of congestion, they vary very much according to the organ affected.

General Remedies.—First in order are those remedies that remove the cause, as the loosening of a ligature, or the removal of a tumor compressing veins, elevation of the head in affected brain, and the recumbent position in congestion of the hemorrhoidal or uterine vessels. Pressure, by supporting the weak vessels, and friction, by increasing the onward movement of the blood in the veins, are often of great use. Astringents, such as solution of alum, sulphate of zinc, tannin, oak-bark, etc., may be applied with advantage locally to certain parts, as the eye, throat, rectum, etc.; and stimulants may be similarly used, as a capsicum gargle to a relaxed sore throat. Medicines of these classes may also be given internally. Thus, the principal action of bark, quinine, and arsenic in the cure of ague is supposed to lie in their reducing the great visceral congestion that is always present. A stimulant draught will often relieve a congestive headache, or the pulmonary congestion which follows a fit of asthma. Various remedies are supposed to have a special power of removing the congestion of certain organs; thus, mercurials are recommended for congestion of the liver; digitalis and cantharides for congestion of the kidneys; and squills, benzoin, and the balsams for bronchial congestion.—See the work of Dr. Williams, quoted above.

CONGIUS, n. *kõn'jĩ-űs* [L.]: a liquid measure containing one gallon.

CONGLACIATE, v. *kõn-glā'shĩ-ăt* [L. *conglaciatus*, pp. *conglacio*, I freeze together—from *con*, *cum*, with, together, and *glacio*, I freeze; *glacies*, ice]: to turn to ice; to freeze; to congeal.

CONGLETON, *kõng'gl-ton*: market-town in Cheshire, England; picturesquely situated in a deep valley, on the Dane, 33 m. e. of Chester. It is a mile long, with many houses built of wood and plaster, and has silk spinning and throwing, with manufactures of silk ribbons, etc. There are coal-mines near. Pop. (1891) 10,744.

CONGLOBATE, a. *kõn'glõ-băt* [L. *conglobatus*, gathered into a ball—from *con*, *globus*, a ball: It. *conglobare*]: formed or gathered into a ball; in *anat.*, globular: V. to form into a ball or hard round substance. CON'GLOBA'TING, imp. CON'GLOBA'TED, pp. CON'GLOBA'TION, n. *-bă'shũn* [F.—L.]: collection into a round mass.

CONGLOBE, v. *kõn-glõb'* [L. *con*, *globus*, a round mass, a ball]: in *OE.*, to form into a globe; to gather into a round mass. CONGLO'BING, imp. CONGLOBED', pp. *-glõbd'*.

CONGLOMERATE, a. *kõn-glõm'ěr-ăt* [L. *conglõmērātus*, rolled together—from *con*, *glomērārē*, to wind into a ball; *glomus*, a clew of thread, a ball: It. *conglomerare*: F. *conglomérer*]: gathered together, as a ball of thread; gathered or huddled together into a mass: N. a coarse rough rock com-

CONGLOMERATE—CONGO.

posed of rounded fragments of various kinds bound together by a cementing substance—when the pieces are sharp and angular, the rock is termed a *breccia*; also called pudding-stone: V. to collect into a round mass. CONGLOMERATING, imp. CONGLOMERATED, pp. CONGLOMERATION, n. -ā'shŭn, collection of various particles of bodies into a mass

CONGLOMERATE, or PUD'DING-STONE, called also BRECCIA: rock consisting of round, water-worn pebbles, compacted together. These pebbles consist of portions of hard rock, frequently quartz. They can sometimes be traced to their parent rock. Their rubbing and polishing must have been a work of considerable time, but their deposition in the beds in which they occur has been performed speedily, the materials having been brought together by a strong current. They are united together by a silicious, calcareous, or ferruginous cement, sometimes so loosely, that they are easily separated by a slight blow from a hammer; at other times, the matrix is as hard as the pebbles which it contains, and clasps them so firmly, that the rock breaks, as if it were a homogeneous mass. The pebbles vary in size, occasionally being several ft. in diameter; but they are generally about the size of, or smaller than a walnut.

CONGLUTINATE, v. kǒn-gló'ti-nāt [L. *conglutinātus*, united firmly together—from *con*, *glūten*, glue: It. *conglutinare*: F. *conglutiner*]: to glue together; to heal a wound by uniting the parts by a tenacious substance; to unite: ADJ. in *bot.*, soldered or glued together in heaps. CONGLUTINATING, imp. CONGLUTINATED, pp. CONGLUTINATION, n. -nā'shŭn [F.—L.]. CONGLUTINATIVE, a. -nā-tiv, having the power of uniting by means of a gluey substance. CONGLUTINATOR, n. -tēr, that which.

CONGO, or CONGOU, n. kǒng'gō [Chinese *kung-foo-cha*, worked tea—from *kung-fu*, labor]: a fine variety of black tea from China.

CONGO, kǒng'gō: in the widest sense, all the countries on the w. coast of Africa between the equator and lat. 18° s.; but more definitely, the name is given to the territory lying between the rivers Dando and Congo, or Zaire.—The great central African river, the Congo, which Stanley has proposed to call the *Livingstone*, has of late drawn much of the interest formerly reserved for the Nile and its exploration. At its mouth on the Atlantic seaboard the Congo is an immense body of water, nearly 10 m. wide and over 160 fathoms in depth. Its upper course remained unknown till Mr. Stanley identified the Congo with the Lu-alaba, and so connected it immediately with the great system of lakes s. and w. of Lake Tanganyika, and less directly with Tanganyika (q.v.) itself. The former chain of lakes, examined by Livingstone in the hope that here he might finally fix the sources of the Nile, were long suspected to drain toward the Congo—a suspicion confirmed by Cameron. But Mr. Stanley and his followers, striking the Lu-alaba (known higher up as Chambezi and Luapula) at Nyangwe, 1876, Nov., followed its course persistently in

the face of enormous difficulties, fighting no less than 32 battles; till, 1877, Aug., he found it, after 'changing its name scores of times,' reached the Atlantic as Congo, Kwango, and Zaire. The Lualaba-Congo, interrupted to the n. of Nyangwe by cataracts and rapids, flows northward from the lake region to about 2° n. of the equator (where it is already 'a broad stream, from two to ten m. wide, studded with islands'); then its course changes to n.w., w., and finally to s.w. 'As the river runs through the great basin which lies between e. long. 26° and e. long. 17°, it has an uninterrupted course of 1,400 m., with magnificent affluents, especially on the s. side. Thence, cleaving the broad belt of mountains between the great basin and the Atlantic Ocean, it descends by about 30 falls and furious rapids to the great river between the falls of Yellala and the Atlantic.'—From the Chibalé Mountains to its mouth it has a length of 2,900 m.; by its great and numerous tributaries (such as the Alima, Kwango, Kasai, Ruru), it is said by Stanley to drain an area of 1,300,000 sq. m. It has but one mouth and no delta; and brings down a volume of water exceeded only by the Amazon. From its mouth, six m. wide, a steamer drawing 15 ft. can steam up 110 m. After 1878, Mr. Stanley, as representative of the International African Association, under the presidency of the king of the Belgians, proceeded to open the Congo to commerce and civilization; and by 1884 had established 30 stations on the river, had made roads at Yellala, and launched steamers. From the great lake-like expanse of Stanley Pool (in 15° 47' w. long.), these vessels can steam 1,000 m. up into the heart of Africa.

CONGO, INDEPENDENT STATE OF: monarchy in central Africa, founded 1885, Feb. 26, under the individual sovereignty of Leopold II., King of the Belgians. The state is the outgrowth of the International Assoc. of Congo, formed by King Leopold 1876, for the purpose of opening Africa to civilization. Belgium, Germany, Great Britain, France, Hungary, Holland, Spain, Switzerland, and the United States were officially represented in the assoc. Henry M. Stanley (q. v.) was engaged to lead an expedition to acquire territory by purchase and treaty. The new state comprises the territory on the n. bank of the Congo river from its mouth to Manyanga. From the mouth of the Likoma it extends n. to lat. 4° n., e. to long. 30° e., s. to Lake Bangweolo, 12° s., w. to long. 24° e., n. to 68° s., and thence w. to the s. bank of the Congo at Nokki; about 1,056,200 sq. m.; pop. (1902) estimated 30,000,000. The general exports and imports were estimated 1894 about \$3,000,000 each. Chief exports are rubber, ivory, coffee, nuts, and palm oil; gold, copper, and other metals have been discovered. The central govt. (1902) was at Brussels, and comprised King Leopold, and the chiefs of the depts. of foreign affairs and justice, finance, and the interior; and local direction was vested in an administrator-gen. On 1903, May 20, England took action looking toward a joint protest by the Powers against ill treatment of the natives.

CONGOON—CONGREGATION.

CONGOON, or **KONGUN**, *kõn-gôn'*: town of Persia, on the Persian Gulf, 130 m. s. of Shiraz. It has an excellent and safe roadstead; and both wood and water, generally scarce in the gulf, may be obtained here. Pop. 6,000

CONGRATULATE, v. *kõn-grät'û-lât* [L. *congratûlâtus*, having wished joy warmly—from *con*, *grat'ulor*, I wish joy: It. *congratulare*: F. *congratuler*]: to profess one's joy to another on account of some event deemed happy or fortunate; to wish joy to another. **CONGRAT'ULATING**, imp. **CONGRAT'ULATED**, pp. **CONGRAT'ULA'TION**, n. *-lâ-shûn* [F.—L.]: the act of expressing joy or good wishes to another—commonly used in plural. **CONGRAT'ULA'TOR**, n. *-tér*, one who. **CONGRAT'ULA'TORY**, a. *-lâ'tér-î*, expressing joy for the good fortune of another.

CONGREE, v. *kõn-grê'* [L. *con*; F. *gré*, will, inclination—from L. *grâtus*, pleasing, agreeable]: in *OE.*, to agree; to accord; to unite. **CONGREETING**, imp. **CONGREETED**, pp. *kõn-grêd'*.

CONGREET, v. *kõn-grêt'* [*con*, and *greet*]: in *OE.*, to greet or salute mutually. **CONGREET'ING**, imp. **CONGREETED**, pp. *kõn-grêt'êd*.

CONGREGATE, v. *kõng'grê-gât* [L. *congrêgâtus*, collected into a flock—from *con*, *grêgêm*, a flock, a herd]: to collect separate persons or things into one place; to bring into a crowd; to assemble; to meet: **ADJ.** collected; compact. **CON'GREGA'TING**, imp. **CON'GREGA'TED**, pp. **CON'GREGA'TION**, n. *-gâ'shûn* [F.—L.]: a collection of various parts brought together; an assembly of persons; a number of persons met for divine worship; an academical assembly. **CON'GREGA'TIONAL**, a. *-shûn-âl*, pertaining to an assembly of persons; denoting those known as Independents or their system of church government. **CON'GREGA'TIONALISM**, n. *-îzm*, the system of church government in which each church or congregation exercises complete control of its own affairs, yet professing to be under the law of Christ, and to hold itself amenable to all the claims of Christian fellowship. **CON'GREGA'TIONALIST**, n. *-âl-îst*, one who holds to the complete independence of each church as regards any external human authority; an Independent.

CONGREGATION: an assembly, generally a religious assembly; in its most ordinary use, an assembly of Christians met in one place for worship: see **CHURCH**.—In the Rom. Cath. Church, it often designates a sort of board of cardinals, prelates, and divines, to which is intrusted the management of some important branch of the affairs of the church. Thus the *C. of the Index* examines books and decides on their fitness for general perusal: see **INDEX**. The *C. de Propaganda Fide* consults as to the advancement of the Rom. Cath. religion throughout the world: see **PROPAGANDA**. The *C. of Relics* inquires into the genuineness of supposed relics. The *C. of the Holy Office* takes cognizance of heresies, etc.: see **INQUISITION**. The *C. of Rites* regulates the festivals and offices of new saints. There are numerous other congregations.

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CONGREGATIONALISM: the principle in church polity, that every local church or congregation of Christ's disciples, has the power and the duty 'to elect its own officers, to manage all its own affairs, and to stand independent of, and irresponsible to, all authority, saving that only of the Supreme and Divine Head of the Church, the Lord Jesus Christ.' Congregational churches regard the Sacred Scriptures as their only standard, and hold that human traditions, historic usages, fathers and councils, canons and creeds, have no rightful authority over the faith and practice of Christ's disciples; though they freely concede that many of these things, if taken merely for advice or guidance, and in no sense for law, are found useful by individual Christians or by churches. Congregationalism denies that there is any authority in Scripture for uniting the churches of a nation or province into one church or corporation to be ruled by a bishop or bishops superior to the bishops or pastors of particular congregations, or to be ruled by a presbytery or synod consisting of the pastors or elders of the several congregations of the nation or province. This is the specialty which distinguishes Congregationalism from Episcopacy and Presbytery. The term 'Independent,'—which until recent years has been the usual designation in England for churches holding this principle—is supposed to have originated in the incidental use of the word in an 'apology' addressed in Latin and English to the British and Continental universities, about 1604. But the early maintainers of this form of church government were careful to repudiate certain inferences which might be drawn from the use of the word Independent. The independence claimed is compatible, it is asserted, with a close union for promotion of common ends, and with fraternal aid and counsel in cases of variance or other difficulty. Indeed, the very relation of fellowship in which all the churches stand with each other through Christ, is held by them to involve necessarily their readiness to ask, to give, and to receive advice and counsel from each other in the spirit of christian meekness and love—especially in all matters in which the action of a church involves its neighbor churches. See COUNCIL (in Congl. churches).

Doctrinally, the early Independents occupied the same position as the other sections of the Puritan family. They held in substance the evangelical doctrines of the Reformers, of the Westminster Assembly, and of the Thirty-nine Articles. While declining subscription to Creeds of man's devising, and frankly tolerant of very considerable diversities of opinion, modern churches known as Congregational profess to be of one mind in regard to the cardinal truths of Christianity, which they view as centering in the person and work of Jesus as the Christ and the Son of God.

The beginnings of Congregationalism in later times, were in the 16th century. These its advocates claim to have been a modern revival of principles which, shortly after the apostolic days, had been lost sight of in the church—a claim utterly denied by the upholders of other forms of government. Previous to the 16th c., Christianity had been in

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most countries where it prevailed, a state religion, governed as to its forms, and influenced not a little in its doctrines, by the same power that controlled the nation. In England, at the Reformation the church became wholly national, retaining the Episcopal organization inherited from ancient times; the church became a part of the governmental order, having its headship vested in the crown. But there were multitudes in England who objected to several features of the constitution then established, and advocated carrying to a greater degree the work of reformation. Some maintained that there was no Scriptural authority for the Episcopal order, and that hence government of churches and superintendence of ministers should be vested not in an individual, but in synods and presbyteries; these formed the Presbyterians. Others held the belief that each congregation of 'faithful men' was a church in itself, competent—when properly constituted—to its own direction, under Christ as the only law-giver, without interference from presbyteries, bishops, or from the state itself; these were Independents or Congregationalists. The separation of the church from the domination of the state was considered necessary both to its purity and to national liberty. The state refused to be governed by the church; and the church came to the belief that if God never organized it for the administration of civil affairs, He certainly never placed it in the power of the state to destroy individual responsibility, or limit the faith and practice of Christians to the uniformity of a state religion.

Robert Brown, a clergyman of the national church in the reign of Elizabeth, is reputed the first man who in England publicly avowed the principles of Independency, and acted upon them by the establishment of various separate churches or congregations. He caused the authorities of the established church considerable trouble, and is believed to have been brought to abandon his theories of Independency. Many other persons, some of celebrity for learning and piety, adopted the principles, but were restrained from acting upon them by the laws then in force for maintaining the Church of England as established. Several, however, suffered death for refusal to submit to these laws; others were banished; many retired to Holland. But when Episcopacy was abolished and monarchy had been overthrown, a large party of Independents suddenly presented itself, who had a great share in the struggle of that time, and who were the means of preventing the establishment of the Presbyterian as a second state church in England. Oliver Cromwell belonged to the Independents; and Dr. John Owen, dean of Christ Church and vice-chancellor of the Univ. of Oxford, is considered the chief ornament of this denomination at the time when it first became considerable, during the Commonwealth. The restoration of the king was followed by the restoration of the established church. In 1662 an act of uniformity was passed by parliament, the object of it being to exclude from the ministerial office in the Church of England divines representing either the principles of the Independents or those of the Presbyterians. The act required a direct acknowledgement of the principles of Episcopacy,

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and its immediate effect was the retirement of 1,900 or 2,000 ministers from the places which they held in the church. During the reign of Charles II., every effort was made to prevent these clergymen continuing to exercise their ministry. But the efforts were in vain. They, or at least the greater part of them, persisted in preaching, notwithstanding the certain penalties of imprisonment and fine, and their followers greatly increased in number. The revolution of 1688 brought their first relief: one of the earliest acts of the new govt. being to grant them toleration so far as to allow them to open meeting-houses, or chapels, and to conduct the services under the protection of the law. Under this act the Independents, Presbyterians, and Baptists formed themselves into congregations, each denomination having a board and fund of its own, and built numerous chapels. In 1691, strong efforts were made to establish a union of dissenters, and terms of agreement were drawn up by the Independents and the Presbyterians, but the actual union was delayed till 1730, when the Independents, Presbyterians, and Baptists formed themselves into a body known as 'The Three Denominations,' for the protection of their civil and religious liberties. The three denominations acted together, by their appointed deputies, in reference to great public questions. Most of the old Presbyterian denomination in England having in the course of time adopted Unitarian sentiments, their representatives at length withdrew from the board; but as the places of the retiring Presbyterians were afterward partly filled by representatives of those Presbyterians in England who held the views of the Presbyterian churches in Scotland, the distinctive appellation of 'The Three Denominations' is still kept up.

In the last decade of the 16th c. many, separatist churches were formed in London. An Independent church was organized there, 1592, with Francis Johnson as its pastor; but its members were so continuously harassed that they at length determined to emigrate in a body to Holland. After various removals this company established themselves ultimately in Amsterdam. Another body, under John Robinson, removed from Scrooby, Nottinghamshire, Eng., and settled in Leyden, Holland. This congregation was a branch of one previously existing at Gainsborough, the other part splitting off 1606, and under the leadership of John Smythe becoming a Bapt. church. The Leyden church is regarded as the parent of Congregationalism in England and America. Among its early members were Elder Brewster and William Bradford, both afterward famous as Pilgrim fathers. Its removal to Holland was made 1608, and under the care of Mr. Robinson it there prospered greatly. A branch from this, under Henry Jacob, returned to England 1616, and established itself at Southwark. A second company, organized by Elder Brewster and Deacon Carver, and numbering 102 persons, sailed from Delfthaven 1620, and landed on Plymouth Rock, Dec, 21 of the same year. Other colonies speedily followed this, settling in Salem, Boston, and other places in New England. It has been calculated that in the period 1620-40 upward of 22,000 Puri-

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tan emigrants sailed from English and Dutch ports for the New World, and some authorities have placed the number as high as 50,000. The leaders, of whom a large proportion were university graduates, were men of rigorous consciences who expatriated themselves not from mercenary motives but because of a determination to secure greater freedom in the worship of God. Among these leaders were Winslow, Standish, Samuel Fuller, Harry Vane, John Cotton, Thomas Hooker, John Eliot, and Richard Mather. Eleven years after their landing the colonists had attained such importance and became so influential that the general court of the colony of Mass., resolved 'that no man shall be admitted to the freedom of this body politic, but such as are members of some of the churches within the limits of the same.'

The growth of Congregationalism in the New England States had a remarkable influence on religious matters in England, and indirectly led to extraordinary legislation affecting every class of dissenters. Among the extreme measures enacted may be mentioned the Corporation Act (1661) which disqualified Nonconformists for holding municipal offices; the Act of Uniformity (1662) (above referred to); the Conventicle Act (1663) which prevented Nonconformist congregations meeting, and prohibited the presence of more than five persons beyond the actual family at any one time in even a private dwelling; the Five Mile Act (1665) which prohibited nonconforming ministers approaching within 5 m. of any corporate borough; and the Test Act (1673) which made Nonconformists ineligible for civil, military, or naval offices under the crown. The Declaration of Indulgence (1672), made by parliament at the earnest solicitation of King Charles who seemed personally willing to grant Nonconformists toleration, gave strong hope of further concessions. The measure was received as one long needed and with great cordiality, and under it 3,000 applications were made for licenses to use or build places of worship. But its benefits were short-lived. Parliament resisted all departure from the rule of the established church, and the king was compelled to sanction the repeal of the act. The Act of Toleration (1689) freed all dissenters from the penalties imposed on the exercise of their worship, and the repeal of the Test and Corporation acts as late as 1828 freed them from all civil disabilities. The Independent churches of England formed a Congregational Union 1831; and the word Congregational has been almost universally substituted for Independent, as being more indicative of the fellowship maintained in their separate communities, the spiritual equality of every member, and the right of each church or congregation to manage its business and ecclesiastical affairs according to its own requirements and its own interpretation of the Scriptures.

Adherents of C. constitute not 'the Congregational Church,' as a distinctive denomination, but, according to the idea of independent action and responsibility, the Congregational *churches*. They are distinguished from all forms of prelacy by the principle of equality of ministers in rank,

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from Episcopacy and Presbyterianism by the principle that the only organized church is a particular or local church, a congregation of believers statedly meeting in one place; from strict Independency by the principle of the communion and fellowship of churches; from the Baptist churches (also Congregational in order) by the principle of the right of believing parents to dedicate their infant children to God in baptism, and by the principle of open communion with all who make a credible profession of being Christ's disciples; and they maintain the general principle that all church power resides in the church, and not in church officers, and resides in each particular church directly and originally by virtue of its being gathered together into one body in the Name of the Lord Jesus, and not traditionally, or by virtue of any authority, derived by succession from a higher body, ecclesiastical, clerical, or political. The pastors and churches of New England maintained that bishops and presbyters or pastors, in the New Test., were only different names for the same office; and that all pastors, regularly separated to the gospel ministry, were and are scriptural bishops. They also insisted, claiming it to be agreeable to the primitive practice, that the official function of every pastor or bishop was confined, chiefly, to one particular church and congregation, such as could usually assemble at one place, whom he could inspect, and who could all unite together in acts of worship, benevolence, and discipline.

A Congregational church is, from its very constitution, at liberty to choose any man for its bishop or pastor whom it considers qualified for the office—subject only to the check arising from the fact that neighboring ministers will refuse to ordain or recognize as minister a man whom they have reason to regard as disqualified. But from the beginning the Independents have attached great importance to an educated ministry. Their leaders in the Puritan age were men of great learning, and, as soon as the Act of Toleration in 1689 allowed, measures were taken for securing a succession of educated men.

C. in England and America, since the beginning of the present century, has originated and fostered systems of education, and of missionary labor, which have wrought incalculable good, and whose influence is felt in the remotest parts of the world. In England the colleges exclusively for the education of ministers for its churches—many of which institutions have valuable endowments—are: Western, Plymouth (founded 1752); Rotherham, Yorkshire (1756); Brecon (1760); Cheshunt (1768); Airedale, Yorkshire (1784); Hackney, Middlesex (1796); Lancashire (1806); Spring Hill, Birmingham (1838); Bala (1842); New College, formed by the union of Coward, Homerton, and Highbury colleges, London (1850); Bristol Institute (1863); and Nottingham Institute (1863). Also 10 institutes for similar purpose, in heathen lands, with abt. 300 students, are under the charge of the London Miss. Soc. There is also a Theol. Hall for Congregational students, at Edinburgh, founded 1811. The Congregational Union of England and Wales, and the Congregational Union of Scotland are associations of min-

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isters and members for fellowship, conference, and mutual aid; but with no authority over members or churches.

In England, the Congregationalists are the largest dissenting body except the Wesleyan Methodists. The largest confederation of Congregational churches is 'the Congregational Union of England and Wales' which is careful to lay down in its basis the principle that 'it shall not, in any case, assume legislative authority, or become a court of appeal.'

In Scotland, Independency may be traced back to the days of the Commonwealth, during which it was imported by the chaplains and soldiers of Cromwell. But the present Congregational churches in Scotland owe their origin mainly to a missionary movement in the end of the last century, chief among the leaders of which were the brothers Robert and James Haldane, Graville Ewing, John Campbell, and John Aikman. The Haldanes became Baptists in course of time—a fact which greatly divided and weakened the new community. The formation of an academy for the training of ministers in 1811, and of the Congregational Union about the same time, did much to restore the lost vigor of the body. There are about 100 churches at present in this 'Union.' The Baptist churches, both in England and Scotland, are as strictly 'Congregational' in their form of government as those which bear that name.

Returning to C. in the United States, the branching out of the churches from their New England home and their location in strongly Presbyterian communities in N. Y. State, led to the belief that two denominations so similar in their views of theology should be more closely connected. A 'plan of union' was agreed to, under whose operation the strength of C. went, for a generation, to the building up of Presbyterian churches in N. Y. and in the central Western States. It is estimated that about 2,000 Presb. churches can be traced to this origin. The two denominations did a widely useful work through the American Home Missionary Society, and the American Board of Foreign Missions. But in time the Congregationalists became more impressed with the necessity for the independence of the local church; a general council of the churches at Albany (1852) and another at Boston (1865) did much to effect a more perfect union of the denomination, while carefully avoiding all centralization of power; and the withdrawal in the interval of the Presbyterians from the two missionary societies, imposing great responsibilities on C., promoted an additional sympathy between the Congregational churches throughout the country. A National Council, holding triennial sessions, was organized at Oberlin, 1871. At its session in St. Louis, 1880, Nov. 11–15, a commission was appointed to prepare in the form of a creed or catechism, or both, a 'simple, clear, and comprehensive exposition of the truths of the glorious Gospel of the blessed God for the instruction and edification of the churches.' This commission presented to the public 1883, Dec. 19, a Statement of Doctrine; which has been

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found acceptable by many churches, but is in no sense an authoritative standard for any individual or church. It is, however, an admirable testimony as to present belief.

The American Board of Commissioners for Foreign Missions, organized at Bradford, Mass., 1810, June 29, occupied (1895) mission fields in Mexico, Spain, Austria, Turkey, Africa, Zululand, India, China, Japan, Micronesia, and Hawaii; comprising 1,265 stations and out-stations, with 572 missionaries, and 3,107 native helpers; churches 461, church members 44,413; Christian schools of all grades 1,165, with 53,000 pupils. The Congl. Education Soc., organized 1816, to aid students for the Congl. ministry, has aided more than 8,000 students: it also assists in supporting teachers and home missionaries in colleges and academies. The American Congl. Assoc. was organized 1854, to promote the interests of the Congl. Library and Congl. House, in Boston. The Congl. Church Building Soc., organized 1853 to aid needy churches in building meeting-houses and parsonages, has raised and distributed in amounts from \$50 to \$5,000, funds to aid in building 2,659 meeting-houses and 524 parsonages, by which more than \$10,000,000 worth of church property has been secured. The Congl. Home Missionary Soc., organized in New York city 1826, May 10, employed (1895) 2,038 missionaries. Since its organization, it has collected and disbursed \$17,411,950, and has led in establishing 6,339 churches (with total additions to membership 447,219), of which churches 2,897 have come to self-support. The American Missionary Assoc., organized 1846, having as its work Christian education through churches, missions, and schools, especially among the negroes of the south and the Indians, had (1895) schools of all grades 117; pupils 13,732; missionaries 649; churches 212; church-members 11,381. The Congl. Sunday School and Publishing Soc. sustains Sunday-school missionaries, furnishes Sunday-school helps, libraries and other literature to new and needy Sunday schools, either gratuitously or at reduced cost: in 1895 it aided in organizing 566 Sunday schools.

The following are the statistics of the Congl. churches (1895): Churches 5,482 (increase of 21 per cent. since 1890); without stated pastoral supply 1,296. Ministers 5,347 (increase of 16 per cent. since 1890); without pastoral charge 1,759; deceased 86; average age of deceased for the previous 20 years, 68 years; average period of their service, 37 years. Church-members 602,557; of whom, males 203,485, females 399,072 (increase of 17 per cent. since 1890). Families 413,167; baptisms 27,990 (adult 15,943, infant 12,047). Sunday-school members 682,580 (increase of 11 per cent. since 1890); average attendance 63 $\frac{1}{3}$ per cent. Young People's Christian Endeavor Socs. 3,825; members 219,112. Benevolent contributions: for foreign missions \$444,643; for home missions \$581,316; for Amer. Miss. Assoc. \$142,624; for Education Soc. \$191,299; for meeting-houses \$75,131; for Sunday schools \$57,319; for ministers' relief \$25,557; for other objects \$669,261; total \$2,187,050. Contributions for home expenses \$6,707,613; total contributions

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for all purposes \$8,894,663 (averaging \$14.76 per member).

Of the total membership, 45 per cent. is concentrated in the New England states, the next strongest centre being in the states of Ohio, Mich., Ill., and Iowa, which hold nearly one-quarter of the total membership. New England shows the greatest *density* of membership, 1 Congregational church-member to every 20 of the population: in S. Dak. there is 1 to every 63, Iowa 1 to 80, Mich. 1 to 84, Minn. 1 to 94, Neb. and Cal. 1 to 100 in each, Wis. 1 to 105, Ill. 1 to 106, Ohio 1 to 115, Kan. 1 to 119.

In 1902, according to non-official estimates there were 5,829 ministers, 5,836 churches and 659,324 communicants.

The theol. seminaries are at Andover, Mass.; Bangor, Me.; Chicago, Ill.; Hartford, Conn.; Oakland, Cal. (Pacific); Oberlin, Ohio; New Haven, Conn. (Yale Divinity School).

The Congregational churches, with their principle of trusting to moral rather than ecclesiastical power, and their appeal to individual private judgment, have been abundant in theological and reformatory discussion. In 1637, the spread of Antinomian doctrine caused much discussion. By a synod convened in New England, Antinomianism was unanimously condemned. In 1638, Harvard College was founded, with especial view to a supply of ministers for the infant colony. About 1750, Unitarian principles began to spread in the Congregational churches in and around Boston. In 1785, a separation took place between the Unitarians and the Trinitarians; both still retain the Congregational form of government, though, except in a few cases, only the evangelical churches retain the name 'Congregational.' Indeed the ancient Pilgrim and Puritan churches of New England had no liking for this or any other sectarian name as a formal and official term; their usual official name was 'Churches of Christ,' and nearly all of them that survive are officially known by this designation still. Harvard University which at one time came almost wholly under Unitarian control, may now be classed as entirely unsectarian, but Christian. Congregationalism is the prevailing form of church-order in New England; it is not largely developed in the Middle States, where, until within a generation. Congregational settlers have largely passed into the Presbyterian churches; it has been, till within a few years, scarcely known in the Southern States; in the great West it is rapidly increasing in numbers and influence.

See Dr. Vaughan's *History of English Nonconformity*; J. Fletcher's *History of Independency*; Waddington's *Early History*; Hanbury's *Memorials*; Neal's *History of the Puritans*; Dr. Stoughton's *Ecclesiastical History of England*; and Mosheim's *General Church History*: see also *The Congregationalism of the Last Three Hundred Years*, by H. M. Dexter, D.D.; *Genesis of the New England Churches*, by Leonard Bacon, D.D.; *Congregationalists in America*, by A. E. Dunning, D.D.; Walker's *History of Congregationalism*, and *Creeeds and Platforms of Congregationalism*; Dexter's *Handbook of Congregationalism*; *Council Manual for a Congregational Church*.

CONGRESS.

CONGRESS, n. *kǒng'grēs* [L. *congressus*, a friendly meeting together—from *con*, *gressus*, a step, a course: It. *congresso*: F. *congrès*]: a meeting together; an assembly of persons for the settlement of affairs between different states or countries; the legislature of the United States of America. **CONGRESSIONAL**, a. *kǒn-grēs'h'ün-äl*, pertaining to a congress. **CONGRESSIVE**, a. *kǒn-grēs'siv*, coming together. **CONGRESS BOOT**, a high shoe or half-boot, coming up to the ankles, and having the sides made in part of some elastic material.—**SYN.** of 'congress': assembly; convention; convocation; meeting; synod; diet; council.

CON'GRESS: assembly either of sovereign princes, or of the delegated representatives of sovereign states, for the purpose of considering matters of international interest. Even in America, though the term has now a different meaning (see **CONGRESS, UNITED STATES**), it had a similar origin, the first C. being that of the delegates from the various British colonies, who met 1765, Oct. 7, for the purpose of considering their grievances under the British crown. Previous to signing a treaty of peace, a meeting of plenipotentiaries usually takes place, to which the name of a C. is sometimes applied, though it seems more properly reserved for those more important meetings at which extensive schemes of future policy are determined on, and the balance of power among the various European states readjusted. To this class belonged the famous C. of Vienna 1815; the C. of Carlsbad 1819, for regulating the affairs of Germany; the Paris C. at the termination of the Russian war of 1854–56; the memorable C. at Berlin after the Russo-Turkish war of 1877–8; and many others.

CONGRESS, UNITED STATES: the national legislature: consisting of a senate composed of two members from each state, elected by state legislatures for a term of six years, and a house of representatives composed of members elected by the people for a term of two years, the total number being based on an apportionment to population made after each national census, each state and territory, however, being allowed at least one representative whatever its population may be. The senate consisted 1890 of 76 members, and the house of 325. The admission of new states increased the number of senators to 90 (1896), and the apportionment of 1890 fixed that of representatives at 356 after 1893, Mar. 4 (357 after admission of Utah, 1896), viz.: Alabama 9, Arkansas 6, California 7, Colorado 2, Connecticut 4, Delaware 1, Florida 2, Georgia 11, Illinois 22, Indiana 13, Iowa 11, Kansas 8, Kentucky 11, Louisiana 6, Maine 4, Maryland 6, Massachusetts 13, Michigan 12, Minnesota 7, Mississippi 7, Missouri 15, Montana 1, Nebraska 6, Nevada 1, New Hampshire 2, New Jersey 8, New York 34, North Carolina 9, North Dakota 1, Ohio 21, Oregon 2, Pennsylvania 30, Rhode Island 2, South Carolina 7, South Dakota 2, Tennessee 10, Texas 13, Utah 1, Vermont 2, Virginia 10, Washington 2, West Virginia 4, Wisconsin 10, Wyoming 1; also 3 delegates from territories—Arizona 1, New Mexico 1, Oklahoma 1. The vice-pres. is *ex-officio*

CONGRESS.

pres. of the senate; the speaker of the house is chosen by the representatives from their number at the beginning of a new C. The house originates all bills providing for the raising of money, and the senate may make amendments thereto. The senate confirms a variety of executive appointments and has the sole power of trying impeachments, and can convict, remove from office, and impose a disqualification from holding any office of honor or trust under the govt. only by a two-thirds vote of members present. No person under 25 years of age is eligible to membership in the house of representatives, and none under 30 to the senate. C. meets in regular session on the first Monday in Dec. of each year. A vacancy occurring by death, resignation, or other cause in the house is filled by a special election in the interested congressional district; occurring in the senate, it is filled by appointment by the gov. of the state interested if the legislature is not in session, and by election by it if it is. The pres. of the United States has the right to approve or disapprove of all bills passed in both houses. Hence all bills passed are sent to him. If he approve a bill his signature is the last act needed to make it operative; if he disapprove it he returns it with his objections to the house in which it originated; it may then be taken up on reconsideration and if two-thirds the members of each house again pass it, it becomes a law over his veto. See BILL, in Legislation. The first C. met in Philadelphia 1774, Sep. 5, and made a declaration of the rights and wrongs of the American colonies, and recommended that the colonies should not import British goods after 1774, Dec. 1, nor export goods to Great Britain, Ireland, or the W. Indies after 1775, Sep. 10, unless their wrongs were righted in the mean time. It also provided for the immediate election of delegates to a second C. to be held in Philadelphia 1775, May 10. Of this body, Peyton Randolph of Va. was first chosen pres., but soon afterward being obliged to return home, John Hancock of Mass. was elected in his stead. Hostilities having occurred between the British and the colonial militia, George Washington, a delegate from Va. was unanimously appointed commander-in-chief of all the colonial forces 1775, June 14. The citizens of Mecklenburg co., N. C., assembled in convention, formally severed themselves forever from all allegiance to the crown of Great Britain, 1775, May 20, and 1776 Jan., Massachusetts instructed her delegates in the second C. to vote for independence; S. C. forwarded like instructions Mar., Ga. and N. C. Apr., Va., N. H., N. J., and Md., June. Under the encouragement of these instructions a resolution was adopted June 11, providing for the appointment of a committee to prepare a declaration of independence and another to prepare articles of confederation. The former was adopted 1776, July 4, and the latter went into force through ratification by a majority of the colonies 1781, Mar. 1, though presented in C. 1777, Nov. 15. The colonial C. thus gave way to the C. of the confederation 1781, Mar 2. The articles of confederation formed the supreme

law of the land till the adoption of the constitution of the United States by a majority of the states 1788, and the inauguration of the new federal govt. 1789. Since then the number of representatives in the house has increased under decennial appointments as follows: (1789) 65; (1793) 105; (1803) 141; (1813) 181; (1823) 213; (1833) 240; (1843) 223; (1853) 234; (1863) 243; (1873) 293; (1883) 325; (1893) 357; (1903) 386. The seat of early congresses depended on exigencies of the military service, viz: 1774, Sept. 5—1774, Oct. 26, Philadelphia; 1775, May 10—1776, Dec. 12, Philadelphia; 1776, Dec. 20—1777, Mar. 4, Baltimore; 1777, Mar. 4—1777, Sep. 18, Philadelphia; 1777, Sep. 27, Lancaster, Penn.; 1777, Sep. 30—1778, June 27, York, Penn.; 1778, July 2—1783, June 21, Philadelphia; 1783, June 30—1783, Nov. 4, Princeton; 1783, Nov. 26—1784, June 3, Annapolis, Md.; 1784, Nov. 1—1784, Dec. 24, Trenton, N. J.; 1785, Jan. 11—1785, Nov. 4, New York; 1785, Nov. 7—1786, Nov. 3, New York; 1786, Nov. 6—1787, Oct. 30, New York; 1787, Nov. 5—1788, Oct. 21, New York. The permanent seat of govt. was established by act of 1790, June 28, by which also C. was to meet in Philadelphia till the first Monday in Nov. 1800, and then remove to the Potomac. The place was officially known as 'The Federal City' till 1791, Sep. 9, when the name was changed to 'The City of Washington' and C. became located there 1800, Nov. 17. Nearly all the business of C. is done by its various standing committees, of which there were (1903) 62 in the house and 55 in the senate, and by special committees appointed from time to time. The membership ranges from 15 to 3, and the dominant political party receives the majority of chairmanships. Members are appointed to them by the pres. of the senate and the speaker of the house for the term of the current C. The standing committees of the house in order of appointment include the committees on elections; ways and means; appropriations; judiciary; banking and currency; coinage, weights, and measures; commerce; rivers and harbors; merchant marine and fisheries; agriculture; foreign affairs; military affairs; naval affairs; post-office and post-roads; public lands; Indian affairs; territories; railways and canals; manufactures; mines and mining; public buildings and grounds; Pacific railroads; levees and improvements of the Mississippi river; education; labor; militia; patents; invalid pensions; pensions; claims; war claims; private land claims; Dist. of Col.; revision of the laws; expenditures in the state dept.; expenditures in the treas. dept.; expenditures in the war dept.; expenditures in the navy dept.; expenditures in the post-office dept.; expenditures in the interior dept.; dept. of justice; dept. of agriculture; expenditures on public buildings; rules; accounts; mileage; enrolled bills; joint committee on library; and joint committee on printing. The senate standing committees include: committees on agriculture and forestry; appropriations to audit and control the contingent expenses of the senate; census; civil service and retrenchment; claims; coast defenses; commerce; Dist. of Col.; education and labor;

engrossed bills; enrolled bills; epidemic diseases; to examine the several branches of the civil service; finance; fisheries; foreign relations; immigration; improvement of the Mississippi river and its tributaries; Indian affairs; interstate commerce; judiciary; library (joint); manufactures; military affairs; mines and mining; naval affairs; on organization, etc., of executive departments; patents; pensions; post-offices and post-roads; printing (joint); private land claims; privileges and elections; public buildings and grounds (joint); public lands; railroads; revision of the laws; revolutionary claims; rules; territories; and transportation routes to the seaboard. The principal select committees of the senate are: to investigate condition of river front of Washington; to inquire into claims of citizens of the United States against Nicaragua; woman suffrage; additional accommodations for the library of C.; quadrocentennial; Indian traders; the five civilized tribes of Indians; transportation and sale of meat products; relations with Canada; and irrigation and reclamation of arid lands. The pres. *pro tem.* of the senate and the speaker of the house receive an annual salary of \$8,000; and senators and representatives \$5,000, with a mileage of 20 cents per mile of travel to and from Washington each annual session, and an allowance of \$125 per annum for stationary and newspapers. See UNITED STATES.

CONGRESS. LIBRARY OF: formerly in the w. projection of the Capitol building in Washington, founded by act of congress 1800, and started with an appropriation of \$5,000 to purchase books of reference for the two houses of congress. Prior to 1814 the books were in charge, *ex-officio*, of the clerk of the house of representatives; and in that year, when the collection comprised only 3,000 volumes, the library was destroyed in the burning of the capitol by the British. The following year congress bought ex-Pres. Jefferson's private library of 6,700 volumes for \$23,000 as a nucleus for a new library, and George Watterson was appointed the first regular librarian. In 1851 an accidental fire destroyed 35,000 of the 55,000 books then collected, and 1852 congress rebuilt its quarters and appropriated \$75,000 to replace and enlarge the collection. Since then it has grown rapidly, and 1892 contained more than 650,000 bound volumes, and more than 250,000 rare and valuable pamphlets. In 1866, the library of the Smithsonian Institution was removed to the new halls of the C. L.; 1867 congress purchased the great historical library of Peter Foree, rich in manuscripts, books, maps, pamphlets, and periodicals; 1870 the adoption of the copyright law made the C. L. the sole office of record and receipt for every publication protected by copyright in America; and 1882, Dr. Joseph M. Toner, of Washington, presented the library his large private collection of more than 27,000 volumes, and nearly as many pamphlets. These are the chief factors in the remarkable growth of this collection. What were known as the new library halls, three in number, were fitted with ornamental iron cases

and iron ceilings, the whole being perfectly fire-proof. These halls are now used for other purposes, the books having all been removed, 1897. The accessions to the C. L. are by purchase with annual appropriations by congress averaging \$90,000, by copyright additions, by exchanges, and by receipts from the Smithsonian Institution. The collection is exceptionally rich in history, political science, jurisprudence, and Americana in various forms. The new library building authorized by congress 1887-8, completed 1897, occupies a square of about 10 acres just e. of the Capitol. It is one of the most splendid of modern buildings; of white granite, 3 stories high; dimensions 470 by 340 ft., $3\frac{1}{2}$ acres being covered by the building. The reading-room, an octagonal or nearly circular hall, is 100 ft. in diameter. Opening from it are book-repositories provided with iron cases, accommodating 2,000,000 vols., the capacity of the whole library building being 4,500,000 vols. There is a large art-gallery, a lecture-hall, and a map-room. The library is maintained by appropriations by Congress for various purposes. For the year 1902-3 these amounted to \$652,785, as follows, \$384,185 for services (including the Copyright Office, and also the care of the building); \$91,300 for books and periodicals; \$37,300 for fuel, supplies, and miscellaneous purposes; \$45,000 for furniture, shelving, etc.; and \$95,000 for printing and binding at the Government Printing Office. The total number of employes was 406. See LIBRARIES.

CONGREVE, *kɒŋ'grɛv*, WILLIAM: abt. 1672-1729, Jan. 19; b. Bardsey, Yorkshire, England: second son of Richard C., of Congreve and Stretton. Educated at Kilkenny, and at Trinity College, Dublin, he returned to England 1688, and was entered at the Middle Temple, but he does not seem to have taken kindly to law. His first publication was a novel, entitled *Incognita, or Love and Duty Reconciled*, a performance which Dr. Johnson said he would rather praise than read, but which has been neither read nor praised by succeeding critics. His first play, *The Old Bachelor*, was produced at Drury Lane when C. was in his 19th year, and its success was remarkable. Next year he came out with *The Double Dealer*, a comparative failure; but his comedy *Love for Love*, published 1695, was a great success, and brought to its author money and fame. *The Mourning Bride*, a blank-verse tragedy, after the manner of the old passionate masters, came out in 1697. Its success was enormous, far exceeding that of his comedies, but it has long since fallen from its high estate. Two years later, he produced his comedy, entitled *The Way of the World*, which failed completely, and disgusted him with the theatre; though, according to some critics (as Swinburne), it is not merely the crowning work of C.'s genius, but 'the unequalled and unapproached masterpiece of English comedy,' equal or nearly equal to Molière's best. In other respects C. was a fortunate man. He held various offices, which together yielded him an income of £1,200. C. affected to despise his theatrical triumphs, and cultivated the modish airs

CONGREVE ROCKET—CONIA.

of the fine gentleman, an eccentricity which laid him open to rebuke when he was visited by Voltaire. In his later days, he was afflicted by gout and blindness. He died in London, and was buried in Westminster Abbey, nobles supporting the pall.

As a writer of comedies, C. holds a high place; he has been called 'the greatest English master of pure comedy.' His plays abound in brilliantly witty dialogue and lively incident, and the style is fine and clear-cut. But his plots are intricate; his dialogue is defiled by all the grossness of his age; and he has but few of those touches of nature that make the whole world kin.

CONGREVE ROCKET: see ROCKET.

CONGRUE, *v.* *kõn-grô'* [L. *con'grũō*, I agree with (see CONGRUENT)]: in *OE.*, to agree; to be suitable. CONGRUING, *imp.* *kõn-grô'ing*. CONGRUED, *pp.* *kõn-gród'*.

CONGRUENT, *a.* *kõn-grô-ënt* [L. *con'grũēns* or *congrũ. ěn'tem*, agreeing together, harmonious: It. *congruenza*]: suitable; agreeing; harmonious. CON'GRUENCE, *n.* *-grô-ěns*, agreement. CON'GRUOUS, *a.* *-grô-űs* [F. *congru*—from L. *con'grũűs*]: accordant; suitable; consistent. CON'GRUOUSLY, *ad.* *-lű*. CONGRUITY, *n.* *kõn-grô'ĩ-tű* [F. *congruité*]: the relation of agreement between things; fitness; reason. GRACE OF CONGRUITY, among the *old schoolmen*, the grace of God conferred on those whose good actions render a reward meet and equitable.

CON'GRUOUS, in Geometry: term descriptive of lines and figures which exactly correspond when laid over one another: see COINCIDENCE.

IN ARITHMETIC, two numbers are said to be C., with respect to a third, when their difference is exactly divisible by it. Thus, 12 and 7 are C. with respect to 5, as $\frac{12-7}{5} = 1$, and so are 27 and 12, as $\frac{27-12}{5} = 3$. The num-

bers considered must be whole numbers. When two numbers are C. to a third, either is called a *residual* of the other with respect to the third.

CONI, *kõ'ně*, or CUNEO, *kô-nă'o*: province in the s. of Piedmont, n.w. Italy; bordering on those of Alessandria, Genoa, Porto Maurizio, and Turin, and on France; area, 2,756 sq. m.; cap. C. It is divided into the districts of Alba, C., Mondovi and Saluzzo, bordered on the w. by the Cottian and Maritime Alps, and watered by numerous tributaries of the Po river. Cattle-breeding and mining are the chief industries of the w., and farming of the e., the province yielding large crops of wheat, maize, rice, beside hemp and mulberries. Pop. (1890) 651,807.

CONI, *kõ'ně*, or CUNEO, *kô-nă'ō*: capital of an Italian province; in a fruitful district, 48 m. s.w. of Turin. Its chief manufactures are silk and woolen cloth. Pop. (1881) 12,413.

CONIA, *n.* *kõ'nű-ă* or *kô-nű'ă*, or CONIINE, *kô-nű'in*, or CONEINE, *n.* *kõ'ně-űn* [Gr. *kõnei'on*, hemlock]: the poisonous alkaloid of the plant hemlock.

CONIC—CONIFERÆ.

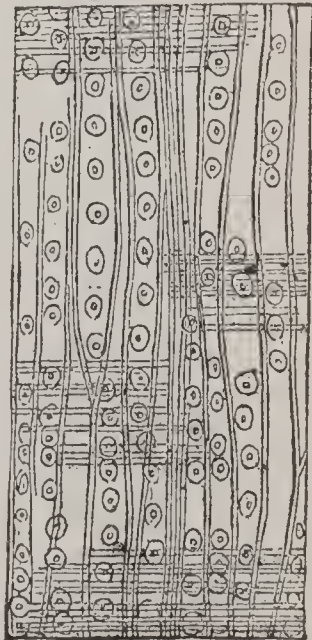
CON'IC, CON'ICS, CONIF'ERÆ, CONIF'ERIN, CONIF'EROUS, etc.: see under CONE.

CON'IC SECTIONS: see CONE: CIRCLE: ELLIPSE: PARABOLA: HYPERBOLA.

CONIDÆ, n. *kō'nī-dē*: cones, a family of gasteropodous mollusks, order *Siphonostomata*.

CONIDIA, n. *kōn-īd'ī-ă* [Gr. *konis*, a nit, the egg of a louse, flea, or bug; *konidos*, of a nit]: in *bot.*, peculiar spores in fungi which resemble buds. CONIDIIFEROUS a. *kōn-īd'ī-īf'er-ūs* [L. *fero*, I bear or carry]: producing or bearing conidia.

CONIF'ERÆ [see CONE]: important nat. ord. of exogenous plants, containing the pines, firs, juniper, yew, etc.; agreeing with the other exogenous orders generally in the structure of the stem and in the mode of vegetation, but differing remarkably from most of them in having naked ovules—i.e., ovules not inclosed in an ovary, but fertilized by the direct application of the pollen to the *foramen*, without the intervention of style or stigma—and upon this account separated from the other exogenous orders, with *Cycadaceæ* (q.v.), by Lindley, Endlicher, and others, as a distinct class, under the name *Gymnogens* or *Gymnospermæ*. The flowers are unisexual, the male and female sometimes on the same, sometimes on separate plants; the male flowers have either one stamen or one bundle of stamens, the anthers often crested; the female flowers are in cones or solitary; the place of ovaries is supplied by the flat scales of the cones, the ovules are usually in pairs on the face of the scales, either inverted or erect. The fruit is either a cone—the scales of which sometimes become fleshy, and are incorporated into a berry-like fruit—or a solitary naked seed. The seed has a hard, crustaceous integument; the embryo is in the midst of fleshy oily albumen; the cotyledons are either two, or numerous and whorled. The mode of branching is peculiar, numerous buds proceeding from the side of the main stem, so as generally to form whorls of branches usually almost horizontal in their direction, while the central vertical shoot runs up often with admirable straightness, and some of the C. attain a height unrivalled among other forest-trees, of which the *Wellingtonia* or *Washingtonia*, now usually called *Sequoia* (q.v.), of California affords the most noble example. The wood consists of *punctated* cells; the sides of the tubes or elongated cells which form it, and which are nearly of equal diameter, being marked by circular disks, which, when highly magnified, exhibit a small internal circle surrounded by a larger external one. The annexed cut represents a longi-



CONIOCYST—CONJECTURE.

tudinal section of part of the stem of a fir, highly magnified, showing the disks. This peculiarity of the wood of the C. is important, as enabling us to recognize it in a fossil state, and to refer many fossils, particularly of the coal formation, to this order. The leaves of the C. differ very widely from those of the closely allied order *Cycadaceæ*. Most of the C. have very narrow veinless leaves, so that the Germans call them *Needle-woods* (Nadelhölzer) in contradistinction to the other European forest trees, which they call *Leaf-woods* (Laubhölzer). By far the greater number belong to the n. hemisphere. The C. are very long-lived; some of them are supposed capable of attaining an age of 2,000 or 3,000 years. When the stem of a coniferous-tree is cut across, it does not sprout again from the root. The C., besides the great usefulness of the timber of many, are remarkably productive of turpentine (q.v.) and resins (q.v.). Astringent substances also are found in their bark, and fixed oil in their seeds. The seeds of some species of *Pine* and *Araucaria* are used as food.

The C. are divided into—1. *Abietineæ*, having inverted ovules and woody cones, as the pines, firs, larch, cedar, araucaria, etc.: 2. *Cupressineæ*, with erect ovules, and either woody or fleshy cones, as the juniper, arbor-vitæ, cypress, etc.: 3. *Taxineæ*, with solitary seeds, as the yew, gingko, etc.: 4. *Gnetaceæ*, plants of comparatively humble growth, with jointed stems, often regarded as forming a distinct order: see SEA-GRAPE. Lindley and others also make the *Taxineæ* a distinct order: see YEW.

CONIOCYST, n. *kõn'î-ô-sîst* [Gr. *konis*, a nit; *kustis*, a bladder]: in *bot*, spore-cases resembling tubercles.

CONIOMYCETES, n. *kõn'î-ô-mî-sê'têz* [Gr. *konis*, dust; *mukês*, a mushroom]: a division of the fungi, in which the spawn or vegetative part is reduced to a minimum, the spores finally forming dust, as in the rust of corn.

CONIROSTERS, or CONIROSTRES, n. plu. *kõn'î-rôs'têrs* [L. *conus*, a cone; *rostrum*, a beak]: tribe or section of the order of birds called *Insessores*, and characterized by a strong conical bill, without notches; classed among the passerine birds. The feet are, in general, adapted for walking on the ground, as well as for perching. The bill varies much in its thickness, and those species in which it is thickest, in general feed most exclusively on seeds. The number of birds belonging to this tribe is very great; and the families differ much in many respects. Among them are finches, sparrows, buntings, linnets, larks, plantain-eaters, colies, crows, birds-of-paradise, starlings, and even hornbills. CON'IOS'TRAL, a. *-rôs'träl*, having a thick conical beak, as a crow.

CO'NIUM, and CONIA, or CONIINE, or CONEINE: see HEMLOCK.

CONJECT, v. *kõn-jêkt'* [see CONJECTURE]: in *OE.—lit.*, to throw together; to guess; to conjecture. CONJECT'ING, imp. CONJECT'ED, pp.

CONJECTURE, n. *kõn-jêk'tür* [F. *conjecture*—from L.

CONJOIN—CONJUGATION.

conjectūră, an inference, a conclusion—from *con*, *jactus*, thrown: It. *conjectura*—*lit.*, a throwing together]: a guess; a supposition; an opinion formed on very slight evidence: V. to form an opinion by guess or on very slight evidence; to surmise. CONJEC'TURING, imp. CONJEC'TURED, pp. -*tūrd*. CONJEC'TURER, n. -*tūr-rēr*, one who. CONJEC'TURAL, a. -*rāl* [F.—L.]: depending on a guess or on slight evidence. CONJEC'TURALLY, ad. -*lī*. CONJEC'TURABLE, a. -*tūr-rā-bl*. —SYN. of 'conjecture, n.': guess; hypothesis; divination; supposition; surmise; inference; idea; notion.

CONJOIN, v. *kōn-joyn'* [F. *conjoindre*, to conjoin—from L. *con*, *jungo*, I join or fasten]: to fasten together; to unite; to connect or associate. CONJOIN'ING, imp. CONJOINED', pp. -*joynd'*. CONJOINT', a. -*joynt'* [F.—L.]: united; connected. CONJOINT'LY, ad. -*lī*, in union with; together; not apart. CONJOINT'NESS, n.

CONJUGAL, a. *kōn'jū-gāl* [F. *conjugal*—from L. *conjūgālis*, relating to marriage—from L. *con*, *jugum*, a yoke or bond: L. *conjux*, a husband or wife: It. *conjugale*]: pertaining to marriage; matrimonial; connubial. CON'JUGALLY, ad. -*lī*. CONJUGAL RIGHTS: see MARRIAGE.

CONJUGATE, v. *kōn'jū-gāt* [L. *conjūgātus*, united—from *con*, *jugum*, a yoke: It. *conjugare*]: to unite; to exhibit a verb in all its principal parts; to inflect a verb: N. a word agreeing in derivation with another word: ADJ. in *bot.*, a pinnate leaf composed of a single pair of leaflets. CON'JUGATING, imp. CON'JUGATED, pp. CON'JUGA'TION, n. -*gā'shūn*, in *gram.*, the exhibition of the principal parts of a verb; a form of reproduction among the lowest organisms preceded by the union and fusion of two individuals; in *bot.*, the union of two cells in such a way as to develop a spore. CONJUGATE DIAMETER, a diameter parallel to a tangent at the vertex of the primitive diameter. CONJUGATE SPIRALS, in *bot.*, whorled leaves so arranged as to give two or more generating spirals running parallel to each other.

CONJUGA'TION, in Grammar: a connected view or statement of the changes of form that a verb (q.v.) undergoes in its various relations: see INFLECTION. The forms usually included under this term are those that serve to mark: 1. *Person*, or the distinction between the speaker, the spoken-to, and the spoken-about; as (I) *write*, (thou) *writest*, (he) *writes*. 2. *Number*; as (John) *writes*, (they) *write*. 3. *Tense*, or time; as (I) *write*, *wrote*, *have written*, *will write*. 4. *Mood*, or the manner in which the action is presented. When the action is simply asserted, it is the Indicative mood, as (he) *wrote*; when put as a supposition or condition, it is the Conditional mood, as, *if he wrote*. The Potential mood expresses the power of doing the action, as, *he can write*; and the Imperative commands the doing of it—*write*. The Infinitive mood expresses the action without limitation of any kind—to *write*; as it makes no affirmation, it is, strictly speaking, not a verb, but a kind of abstract noun. The two participles, the one expressing the action as in progress (*writing*), the other as completed (*written*),

have been, by many writers, classed with the infinitive, as not affirming anything. In opposition to the infinitive and the participles, the other parts of the verb are called Finite. 5. *Voice*, or the distinction between Active and Passive (see VERB); as (he) *wrote* (the letter), (the letter) *was written* (by him).

In English, and in most modern European languages, the greater part of these distinctions are indicated by separate words; in Sanskrit, Greek, and Latin, they were nearly all indicated by prefixes and affixes, or other modifications of the word itself. For the nature and origin of these modifications see INFLECTION. All verbs do not take the same changes even in the same language. Although the affixes, e. g., may have originally been the same, yet they underwent, in course of time, different kinds of corruption or obliteration, depending upon the nature of the letters in the root verb. This leads to the verbs of a language being arranged in different classes of conjugations. In Latin, for instance, grammarians recognize four conjugations, and verbs that cannot be brought into any class are called Irregular Verbs.

In English, there are two distinct types of the inflection of verbs; thus, *I love*, becomes in the past tense, *I loved*, and in the passive voice, *I am loved*; while *he shakes* becomes *he shook*, and *he is shaken*. Verbs, that, like *love*, take *d* (or *ed*—sometimes *t*) in their past tense and past participle, form one class or C.; and those resembling *shake* in their changes form another. The former class is by far the most numerous; but the latter includes the most commonly used and oldest verbs in the language. The mode of change seen in *shake*, *shook*, *shaken*, is believed more ancient than the other, and is therefore called the Old C., and sometimes, the Strong C., the other being the New or Weak. The verbs belonging to the old C. all are of Saxon origin, and are primitive or root verbs; while derivative verbs belong to the other class. Verbs of the weak C. are nearly uniform in taking *d* or *ed*, although after certain letters the *d* is of necessity pronounced as *t*, and is sometimes replaced by that letter in writing—*dipped* becoming *dipt*. With regard to verbs of the strong C., no rule can be given as to the change of vowel by which the past tense is formed. It was made at first, no doubt, according to what were felt as laws of euphony; and even yet a certain ‘method’ may be discerned ‘in their madness.’ Thus:

1. Rise, rose; smite, smote; ride, rode; drive, drove; etc.
2. Cleave, clove; steal, stole; speak, spoke; tear, tore; etc.
3. Swim, swam or swum; sing, sang or sung; ring, rang or rung; etc.

For further information on the C. of English verbs, see Latham’s *English Language*, or Chambers’s *Information for the People* (ed. 1874), vol ii., art. ‘English Grammar.’

CONJUGATION OF CELLS: union of two distinct cells of a plant, in order to reproduction. It has been observed only in the *Conferraceæ* and *Diatomaceæ*. Two cells

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come into contact, as by two filaments of a *Conferva* being brought together, and little projections are formed from each, the points of which are absorbed, and thus a tube is formed, through which one of the cells empties itself into the other. The latter then becomes a *mother-cell*, and produces spores.

CONJUNCT, a. *kõn-jũnk't'* [L. *conjunctus*, joined together, united—from *con*, *junctus*, joined, coupled]: conjoined; united. **CONJUNCT'LY**, ad. *-lĩ*. **CONJUNC'TION**, n. *-jũngk'shũn* [F. *conjonction*]: union; connection; league; in *astron.*, the meeting of two planets on the same side of the sun and in the direct line of the eye, as the moon with the sun at new moon; in *gram.*, a joining or connecting word. **CONJUNC'TIVE**, a. *-tĩv*, serving to unite. **CONJUNC'TIVELY**, ad. *-lĩ*. **CONJUNC'TIVENESS**, n. **CONJUNC'TURE**, n. *-tũr* [F. *conjoncture*]: a joining together; a combination or union, as of causes; an occasion; a crisis. *Note.*—*Inferior* and *superior conjunctions*, are said of the inferior planets, Mercury and Venus — *inferior* when the planet passes between the sun and the earth, and *superior* when it passes behind the sun.

CON'JUNCT AND CON'FIDENT: see **INSOLVENCY**.

CONJUNC'TION, in Astronomy: one of the aspects (q.v.) of the planets. Two heavenly bodies are in C. when they have the same longitude—that is, when the same perpendicular to the ecliptic passes through both. If they have, at the same time, the same latitude—that is, if they are both equally far n. or s. of the ecliptic—they appear from the earth to be in the same spot of the heavens, and to cover one another. The sun and moon are in C. at the period of new moon. In the case of the inferior planets, Mercury and Venus, there is an inferior C. when the planet is between the earth and the sun, and a superior, when the sun is between the earth and the planet. In general, a heavenly body is in C. with the sun, when it is on the same side of the earth and in a line with him; and it is in *opposition* to the sun, when it is on the opposite side of the earth, the earth being in a line with it and the sun. Planets are invisible when in C. with the sun, except in rare cases when an inferior planet passes over the sun's disk, and may be seen as a speck on his surface. Conjunctions are either *geocentric* or *heliocentric*, according as they are actually witnessed from the earth, or as they would be witnessed if observed from the sun. In observing a C. from the earth's surface, it is usual to reduce the observation to what it would be if made from the earth's centre; by this means, the exact times of C. are more accurately fixed, and the observations of one astronomer made available to every other, wherever he may be on the earth's surface. *Grand conjunctions* are those in which several stars or planets are found together. The Chinese history records one in the reign of the Emperor Tehuen-hiu (B.C. 2514–2436), which astronomers calculate to have actually taken place.

CONJUNCTION, in Grammar: a word assigned to

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one of the 'parts of speech,' or classes, into which grammarians divide words. A C. serves the purpose of connecting sentences, parts of sentences, and single words; as 'Day ends, *and* night begins. William *and* John learn Latin. Charles *and* James carried the basket between them.' In the first sentence, *and* connects two separate affirmations into one compound sentence. The same is true in the second—the separate affirmations being 'William learns Latin,' and 'John learns Latin.' In the third sentence, *and* connects only the two words, 'Charles' and 'James,' as it cannot be affirmed of either of them alone that he 'carried the basket.' In most cases, however, it can be shown that, logically at least, two affirmations are involved, and that the conjunction really connects the affirmations. It is not easy to distinguish conjunctions from adverbs. All conjunctions were originally other parts of speech; and the greater part of them are still really adverbs, and owe their conjunctive effect to their signification as adverbs. In *and* and *but*, whatever may have been the original meaning, we now attend only to the conjunctive effect; *or* is a shortened form of the pronominal adjective *other*; and *nor* is *or* with the negative prefixed. In such a sentence as, 'I believe that you are wrong,' *that* is the demonstrative pronoun, equivalent to—I believe *this*, viz., 'you are wrong.' This is clearly seen in the corresponding words in other languages: Ger. *dass*, Fr. *que*, Lat. *quod* (for the relatives were originally demonstrative pronouns). All the rest might be called Adverbial Conjunctions, or Conjunctive Adverbs. Ex., 'He is industrious; *therefore* he is happy'—that is, 'he is happy *for that*.' This adverb, or adverbial phrase, expressive of the cause of the happiness, by referring back for its meaning to the former assertion, has the effect of connecting the two assertions in the mind. Again, 'The messenger arrived *while* he was speaking.' Here *while* is equivalent to, *at the time at which* (he was speaking). As an adverbial phrase, this points to the time of the act of 'arriving;' but as it also expresses that the speaking was going on at the same time, it thus conjoins the two assertions.

The most important distinction among conjunctions is illustrated in the following pair of sentences:

The sun went down, *and* the moon rose.
The moon rose, *as* the sun went down.

The first (compound) sentence contains two simple sentences or assertions, linked together, yet each standing on an independent footing; the two are joined on terms of equality, and are therefore said to be *co-ordinate*, and the conjunction is called a Co-ordinating Conjunction. In the second sentence, the last clause, though a grammatical sentence, contains no logical proposition, no assertion made for its own sake, but merely states a fact as a modifying circumstance with regard to the assertion contained in the first clause. The sentence of the second clause is therefore *subordinate* to that of the first, and the conjunction that marks the relation, a Subordinating Conjunction. The chief Co-ordinating conjunctions are;

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1. *And, also, likewise, not only—but, partly—partly, first—then, further.* All these are used to tack on sentences whose sense accords with, or adds to, the effect of what goes before. Hence they might be called *cumulative* conjunctions. The following (2) mark various degrees of opposition in the sense or effect of the sentences, and might be called *adversative* conjunctions. These terms seem preferable to *conjunctive* and *disjunctive*, frequently used.

2. { (a.) *Not—but, else, otherwise* (Exclusive).
(b.) *Either—or, neither—nor* (Alternative).
(c.) *But, only, yet, still, at the same time, nevertheless, notwithstanding.*

3. *Therefore, wherefore, for, thus, consequently, hence, accordingly, so, so that.* (Cause and effect.)

All other conjunctions may be classed as Subordinating, such being their usual function. Those in most common use are: *Although, as, as well as, so—as, as—as, because, if, lest, since, than, that, in order that, though, unless, whether, when, before, after, while.*

CONJUNCTIVA, n. *kõn'jũnk-tĩ'vǎ* [L. *conjunctivus*, fastening together—from *con*, together; *jungo*, I join]: the fine sensitive membrane which covers the front of the eyeball, and lines the eyelids.

CONJUNCTLY AND SEVERALLY: term in the law of Scotland, corresponding to jointly and severally; and denoting a form of obligation by which each of several obligants becomes bound for the whole: see JOINT AND SEVERAL.

CONJURE, v. *kõn-jõr'* [F. *conjurér*—from L. *conjurāre*, to combine together under an oath—from *con*, *jurāre*, to swear]: to call on or summon by a sacred name; to implore solemnly; in *OE.*, to bind by an oath; to conspire. CONJURING, imp. CONJURED', pp. *-jõrd'*. CONJUREMENT, n. solemn demand or injunction. CONJURATION, n. *-jũ-rǎ-shĩn* [F.—L.]: the act of using certain words or ceremonies in order to gain the assistance of a superior power; the act of summoning in a sacred name: see MAGIC: INCANTATION. CONJURER, n. *kõn-jõ'rér*, one who summons in a sacred name. CONJUROR, n. *-jõ'rõr*, one bound by oath with others. CONJURE, v. *kũn'jër*, to act in some manner by supernatural influence; to practice magic arts; to charm. CONJURING, imp. CONJURED, pp. *-jërd*. CONJURER, n. *kũn'jërer*, one who pretends to the secret art of performing things supernatural; a juggler; a man of sagacity.

CONKLING, *kõngk'ling*, ROSCOE: 1829, Oct. 30—1888, Apr. 17; b. Albany, N. Y.: lawyer. He received an academic education; studied law with his father and in Utica with Francis Kernan; settled in that city 1846; became dist. atty. for Oneida co., 1850, immediately after his admission to the bar; and was elected mayor 1858, serving two terms. He was elected member of congress from the 21st cong. dist. as a republican, 1858, 60, 64, and 66, and U. S. senator to succeed Ira Harris, 1867, Jan.; and was re-elected, 1873 and 79. In the house he was a mem-

ber of the committees on the Dist. of Col., on ways and means, and the special reconstruction committee of 15; and in the senate was chairman of the committees on commerce, and on the revision of the laws, and a member of nearly all other important committees. He was a zealous supporter of Pres. Grant both in his administration and his candidacy for a third term, and advocated his claims at Chicago 1880. Soon after the inauguration of Pres. Garfield, Senator C. took offense at the appointment of Judge Robertson as collector at the port of New York, charged the pres. with bad faith in not previously consulting the N. Y. senators about the appointment, and in violating a pledge given him personally, and with his colleague, Senator Platt, resigned, 1881, May 16. He was a candidate for re-election, as a vindication, but the legislature chose Messrs. Warner Miller and Latham to fill the two vacancies. He then withdrew entirely from politics, removed to New York, and applied himself to his legal practice. His last important work was in the investigation of the Broadway horse-car franchise voted by the Board of Aldermen (1884) 1885 and 6, and resulted in the repeal of the company's charter. He was bewildered and nearly overcome in Union Square during the furious snow storm of 1888, Mar., and that exposure resulted in his death.

CONN, LOUGH: lake in the n. of Mayo county, Ireland, and with Lough Cullin (from which it is separated by a narrow neck of land), 13 m. long, and one to three broad. It is 40 ft. above the sea, in a wild romantic region of hills, glens, rocky slopes, precipices. broken ground, and bogs. It contains isles, and has bold shores.

CONNARACEÆ, *kŏn-na-rā'sē-ē*: natural order of dicotyledonous or exogenous plants, consisting of trees and shrubs, sometimes climbing, with compound alternate leaves, destitute of stipules; the flowers in racemes or panicles. Resinous juices do not occur in this order. 40 or 50 species are known, all tropical. The best known product of this order is the beautiful wood called ZEBRA WOOD, from a large tree which grows in Guiana, *Omphalobium Lambertii*. The fruit of some species of *Omphalobium* is eaten; the eatable part is the fleshy aril.

CONNASCENCE, n. *kŏn-nās'sēns* [L. *con*, together; *nascens*, being born, springing up; *nātus*, born]: a common birth or origin; act of growing together.

CONNATE, a. *kŏn-nāt'* [L. *con*, together; *nātus*, born]: born with another; in *bot.*, having two leaves on opposite sides of a branch united by their bases: having parts united in any stage of development, which are normally distinct. CONNATURAL, a. *-nāt'ū-rāl* [L. *nātūra*, nature]: connected by nature or birth; inherent. CONNAT'URALLY, ad. *-lī*.

CONNAUGHT, *kŏn'nawt*: westmost and smallest of the four provinces of Ireland: bounded n. and w. by the Atlantic; e. by Ulster and Leinster, from the latter of which it is separated by the Shannon; and s. by Munster. It contains the counties of Galway, Leitrim, Mayo, Roscom-

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mon, and Sligo. Greatest length from n. to s., 105 m.; greatest breadth, not including Achil Island, 92 m. Area, 6,863 sq. m. Along the w. coast are many fine bays and harbors. The country, especially in the w., is mountainous and rugged, remarkably grand and picturesque. (For details, see the respective counties.) The people are still almost purely Celtic. In the times of the Irish pentarchy, the O'Connors were kings of Connaught. In 1590, the province was divided into six counties, the five above mentioned, with Clare (afterward joined to Munster). It then lost its independence, and came under English administration. From famine and emigration, the population of C. has been diminished by more than 697,000 since 1841. Pop. (1841) 1,420,705; (1851) 1,012,479; (1861) 919,135; (1871) 846,213; (1891) 723,573; (1901) 646,932.

CONNECT, v. *kõn-někt'* [L. *connectĕre*, to bind or fasten together—from *con*, *necto*, I tie, I bind]. to tie or link together; to knit or fasten together; to join or unite; to combine or associate; to have a close relation. **CONNECTING**, imp.: **ADJ.** fastening together; joining. **CONNECTED**, pp. **CONNECTEDLY**, ad. *-lĭ*. **CONNECTIVE**, a. *-tĭv*, able to connect: **N.** that which joins; in *bot.*, the fleshy part which connects the lobes of an anther. **CONNECTION**, n. *kõn-něk'shŭn*, or **CONNEXION**, n. *-něk'shŭn* [F. *connexion*—from L. *connexiōnem*, a conclusion—from L. *con*, *nexus*, tied]: state of being joined or fastened together; the act of joining or fastening together; union by an intervening substance; relation by blood or marriage; a religious sect: **N. PLU.** acquaintances; business friends; relatives. **CONNECTING-ROD**: see **STEAM-ENGINE**. *Note.*—By most writers the spelling **CONNECTION** [L. *con*, *necto*, I tie] and **CONNEXION** [L. *con*, *nexus*, tied] are used indifferently. As derived from the English verb *connect* and the Latin *necto*, the spelling *connection* should be preferred to that of *connexion*. If, however, both forms are preserved, their application should be restricted, and they ought not to be made identical in signification. As suggested by Dr. Latham, the form (1) **CONNECTION** should be used when *a link or bond of union* is meant; and (2) **CONNEXION** when *the object which is linked* is signified,—thus (1) **CONNECTION**, n. *kõn-něk'shŭn*, state of being fastened together; act of fastening together; junction by an intervening substance or medium; just relation to something precedent or subsequent; coherence. (2) **CONNEXION**, n. *kõn-něk'shŭn*, a relation by marriage or blood; a religious sect or communion; circle of persons with whom any one is in contact.—**SYN.** of 'connect': to combine; attach; unite; knit; link; fashion; weave; twine;—of 'connection': union; junction; association; intercourse; communication; communion; dealing. coherence; continuity; dependence; commerce; relationship; affinity; alliance; correspondence.

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CONNECTICUT, *kon-nět'ĭ-kūt*: state, one of the 13 original states of the American Union, and excepting Delaware and Rhode Island the smallest in area of all the states.

Location and Area—C. lies between lat. 41° and $42^{\circ} 3'$ n., and long. $71^{\circ} 55'$ and $73^{\circ} 50'$ w., and is bounded on the n. by Massachusetts 88 m., e. by Rhode Island 45 m., s. by Long Island sound 100 m., and w. by New York 68 m.; it has a projection under New York on the s.w. of 13 m.; average length 86 m., and breadth 55 m.; 4,845 sq. m.

Surface.—It is on the s. slope of the hilly region of New England, and while its surface is beautifully diversified with hills and valleys it is in no place over 1,000 ft. above sea-level. It is drained by three large rivers and their tributaries. Of these the Connecticut is the largest in New England; rises in N. H., near the boundary of Canada, separates N. H. from Vt., crosses Mass. on the w., bisects C., and after a flow of over 400 m. empties into Long Island sound at Saybrook. It has a width in C. varying from 500 to 1,000 ft., and is navigable 50 m. from its mouth. The Housatonic with its main branch, Naugatuck, waters the grazing and dairying sections of the w. plateau, and is navigable to Derby. The Thames, formed by the Yantic, Shetucket, and Quinnebaug, drains the e., and is navigable to Norwich. There are four distinct ranges of hills, running generally n. and s.; the Housatonic extending along that river to the coast, the Green Mountain from the Vt. line to New Haven, the Blue between the Green Mountain and the C. river, and a fourth further e., which is crossed by the C. river at Chatham. The valley of the C. exhibits triassic sandstone and post-tertiary terraces; the remainder of C. is considered eozoic.

Natural Resources.—Of the various mineral productions iron ore takes the lead, and is found in great quantities in Salisbury, Kent, Sharon, Canaan, and Cornwall; the works at the former place have been in operation over a century. Copper is found in Granby, Bristol, and other towns, but has not been worked to any extent in many years. Cobalt is found at Chatham, and lead and silver in several places, but the last two not in paying quantity. The rocks are mainly traps, granite, sandstone, and limestone. There are immense quarries of red sandstone at Portland and Cromwell, which furnish brownstone fronts for buildings. Bolton and Haddam supply an excellent quality of slate flagging, Milford a beautiful greenish marble and limestone, and Canaan and Washington limestone and marble. Glastonbury and Middletown have valuable felspar quarries yielding an abundant material for porcelain and crockery; Lyme has a variety of porphyry; and granite, gneiss, clay for bricks and pottery, tiling slate, and sulphate of barytes, are found in profusion throughout the state.

Agriculture.—In 1890, there were 26,350 farms in the state, covering 253,432 acres, and valued at \$108,050,708. The product of the principal crops in 1895 was as follows: corn, 1,768,338 bushels raised on 46,658 acres and worth

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\$901,852, a decrease in supply of 264,662 bushels in ten years; oats, 742,217 bushels, 23,267 acres, value \$230,087, decrease. According to the statistics of U. S. agriculture, 1902, the potato crop was 2,670,944 bushels, from 29,032 acres; oats, 351,244 bushels, 10,181 acres; hay, 648,062 tons, 480,046 acres; corn, 1,651,671 bushels, 525,434 acres; rye, 185,780 bushels, 10,677 acres; tobacco, 21,785,200 pounds, 12,725 acres; buckwheat, 70,398 bushels, 3,826 acres. Fruits and vegetables grow in great abundance. Tobacco, which thrives in the valley of the C. river, is used chiefly for the wrappers of cigars made from the stronger flavored Havana tobacco.

Live Stock.—According to the report of the U. S. Department of Agriculture in 1903 there were 128,284 cows, 34,600 sheep, 46,041 swine, 51,737 horses, and 88,377 other cattle; value \$11,740,439.

Manufactures.—The number of manufacturing establishments in C. (1890) was 6,822; working on an aggregate capital of \$227,004,496; employing 149,930 persons; paying in wages \$75,990,606; consuming materials that cost \$123,183,080; and yielding products of a market value of \$248,336,364. The industry largest in capital employed was the manufacture of cotton goods, which had a capital of \$26,431,578; paid in wages \$4,524,483; consumed in material \$8,215,751; and had a product valued at \$15,409,476. That of foundry and machine-shop products came second, with \$13,523,724 capital; \$5,693,719 wages; \$4,874,852 materials used; and \$13,314,156 product. Hardware and tools ranked third: \$13,453,539 capital; \$4,419,159 wages; \$4,407,986 material; \$11,995,023 product. Woolen goods were fourth, with capital \$10,188,042; wages \$2,035,462; material \$5,753,095; product \$9,082,493. Then followed, plated and britannia ware, \$9,916,866 capital; \$2,340,364 wages; \$3,391,944 materials; \$7,569,920 products: brassware, \$9,148,326 capital; \$3,017,659 wages; \$5,983,668 materials; \$10,711,945 product: silk and silk goods, \$9,037,042 capital; \$2,006,804 wages; \$6,201,876 materials; \$9,788,951 product: brass castings and brass finishing, \$7,109,461 capital; \$1,801,552 wages; \$4,237,237 materials; \$7,428,011 product: worsted goods, \$5,263,201 capital; \$875,372 wages; \$2,814,186 materials; \$4,651,402 product: hosiery and knit goods, \$4,822,911 capital; \$1,073,135 wages; \$2,029,921 materials; \$3,771,567 product: brass and copper rolled, \$4,767,896 capital; \$881,123 wages; \$2,605,631 materials; \$4,169,938 product: clocks, \$4,485,429 capital; \$1,462,140 wages; \$1,087,327 materials; \$3,117,186 product: gas for illumination and heat, \$4,456,409 capital; \$223,127 wages; \$276,862 materials; \$1,200,575 product: corsets, \$3,982,271 capital; \$1,877,895 wages; \$3,089,618 materials; \$6,274,867 product: paper, \$3,920,916 capital; \$725,214 wages; \$2,014,680 materials; \$3,556,257 product: cutlery and edge tools not elsewhere specified, \$3,448,848 capital; \$1,269,574 wages; \$956,608 materials; \$2,895,390 product. In 1900 there were 9,128 manufacturing establishments employing \$314,696,736

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capital and 186,675 persons; paying \$105,053,775 for wages and \$185,641,219 for material used; and yielding products valued at \$352,824,106. The principal articles were cotton goods, \$15,489,442; foundry and machine shop products, \$18,991,079; hardware, \$16,301,198; and brassware, \$9,269,159.

Finances, Banking, and Insurance.—In 1890, the tax rate on the true valuation of real and personal property was 73c. per \$100, while in 1880 it was but 69c.; an increase of 4 cents in ten years occasioned by extraordinary local expenditures. The state debt (1902) was \$1,091,402. The assessed valuation was formerly one-half the actual value, but in 1900 it was slightly higher, \$570,163,749. In 1901 there were national banks in operation, 83, with \$20,382,070 capital and \$60,480,605 in circulation, and savings banks, 90. There were 10 stock fire-insurance companies having their general offices in this state, with aggregate paid-up capital \$10,675,000; 10 life and accident insurance companies, with gross assets amounting to \$141,625,628.

Education.—The permanent school fund of C. was established in 1818 with the proceeds of the sale of the Western Reserve lands in Ohio, and amounted 1890, June 30, to \$2,020,073.83, yielding annual income more than \$125,000, which, after deducting expenses for management, with \$1.50 taken from the general revenue for each resident of the state between 4 and 16 years of age, was distributed among the several towns in proportion to the number of persons in each between these ages. The value of all public property used for school purposes (1894) was \$5,783,299; expenditure for supervision and teaching \$964,712. The number of children between the ages of 4 and 16 years enrolled in the public day schools (1895) was 70,403, average daily attendance 51,940; pupils in private and parochial schools, 14,357. The most widely-known institutions are Yale Univ., New Haven, Trinity College, Hartford, and Wesleyan Univ., Middletown. There are a deaf-and-dumb asylum and school at Hartford, a school for deaf-mutes at Groton, a school for idiots at Lakeville, a boys' state reform school at Meriden, a girls' industrial school at Middletown, a state normal school at New Britain. There are 130 public libraries of over 300 vols. each, aggregating 750,000 volumes.

State Divisions.—C. is divided into 8 counties, and has 9 cities and 166 towns. The counties are Fairfield, s.e., area 647 sq. m., pop. 112,044, caps. Bridgeport and Danbury, taxable property \$125,000,000; Hartford, n., area 807 sq. m., pop. 125,377, cap. Hartford, taxable property \$225,000,000; Litchfield, n.w., area 900 sq. m., pop. 52,043, cap. Litchfield, taxable property \$55,000,000; Middlesex, s., area 425 sq. m., pop. 35,597, caps. Middletown and Haddam, taxable property \$40,000,000; New Haven, s., area 640 sq. m., pop. 156,526, cap. New Haven, taxable property \$200,000,000; New London, s.e., area 650 sq. m., pop. 73,137, caps. New London and Norwich,

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taxable property \$90,000,000; Tolland, n.e., area 375 sq. m., pop. 24,112, cap. Tolland, taxable property \$4,000,000; and Windham, n.e., area 630 sq. m., pop. 43,857, cap. Brooklyn, taxable property \$35,000 000. The cities are New Haven, pop. (1897) 105,000; Hartford (cap.), 70,000; Bridgeport, 60,000; Norwich, 16,156; Waterbury, 28,646; Meriden, 21,652; New Britain, 19,007; Middletown, 9,013; and New London, 13,757; Fairfield, New Haven, Middletown, New London, and Stonington are ports of entry; the chief harbors are at Stonington, Mystic, New London, Saybrook, New Haven, and Bridgeport; and minor ones at Niantic, Guilford, Clinton, Braudford, Milford, Southport, Norwalk, Stamford, and Greenwich.

Government.—The present constitution of C. was adopted 1818. For many years Hartford and New Haven were joint capitals and the legislature held alternate sessions in each city, but the former was selected as the sole seat of govt. 1874. The legislature consists of a senate of 21 members and a house of representatives of 247 members. The gov. and other state officers are elected biennially, and judges of the various courts for terms of 8 years. The judiciary consists of five judges of the supreme court of errors, five of the supreme court, and six of minor courts. C. has two senators and four representatives in the U. S. congress. The govt. embraces the following: Gov., lieut.gov.; sec. of state; treas.; comp.; sec. of state board of education; railroad commissioners; chief justice supreme court. The U. S. senators are Joseph R. Hawley, term expires, 1905, Mar. 4, and Orville H. Platt, term expires 1909, Mar. 4.

Railroads, etc.—In 1895, there were 22 railroads in the state, built at a cost of \$75,831,210, having a paid-up capital of \$90,008,363, operating 2,583 m. and earning for the year \$35,206,110. The longest were the New York and New Haven, extending from New York to Springfield, Mass., and having 120 m. in the state; the Providence and Fishkill, Waterbury to R. I., 96 m. in the state; the Housatonic, Bridgeport to Pittsfield, Mass., 74 m. in the state; the C. Western, Hartford to Millerton, N. Y., 65 m.; New Haven and Northampton, New Haven to Williamsburg, Mass., 62 m.; New London Northern, New London to Miller's Falls, Mass., 53 m.; Boston and New York Air Line, New Haven to Willimantic, 50 m.; Shore Line, New Haven to New London, 50 m.; Norwich and Worcester, New London to Worcester, Mass. 50 m.; and the C. Valley, Hartford to Saybrook, 46 m. The chief cities and towns on the sound are connected by steamboat lines with New York and Philadelphia; a large coasting trade is done in sailing vessels, and valuable menhaden and oyster fisheries are similarly conducted.

Churches.—The number of churches of all denominations is estimated at 1,175, which held property valued at \$16,985,036. The Congl. churches ranked first with 298 churches, a church membership of 57,202, of whom 38,056 were females, and a Sunday-school membership of 55,352. Then followed in the order of membership the

Meth. Episc., Prot. Episc., Bapt., Rom. Cath., Presb., Univ., Unit., Luth., and Jewish churches.

History.—It is uncertain whether C. was visited first by the English or by the Dutch. Both claimed to be the first explorers and their rival claims to possession afterward gave great annoyance to the settlers. The Dutch claimed the territory by reason of the discoveries of Hendrick Hudson, though they made considerable purchases from the Indians; and the English claimed it by virtue of a patent granted by Robert, Earl of Warwick, to Lord Say and Seal, Lord Brook, Sir Richard Saltonstall, and others associated under the name of the 'Plymouth Company' 1631. The 'Plymouth Council for the planting, ruling, and governing of New England, in America' was incorporated by King James I. 1620, and from it was derived the above patent and the numerous grants under which the early settlements were made. The Dutch further claimed that they had explored the C. river and sea-coast as early as 1615, and it is known that they established a colony at Hartford 1633, but soon afterward sold it to the English. On the other hand it is known that a sachem living on the river visited Plymouth and Boston 1631, and solicited the governors of those settlements to send a colony to occupy the country. A small party went from Plymouth to the C. river and selected a convenient spot for a trading station in the present Windsor, near the mouth of the Farmington river; and Gov. Winslow and Mr. Bradford of the Plymouth colony proposed to Gov. Winthrop of Mass. and his council that they should join them in establishing such a house there to secure the country against the designs of the Dutch, who were reported to be about carrying a similar project into execution. In 1633, the C. river was visited by several vessels from Plymouth, and on reaching the site of Hartford it was found that the Dutch had erected a small fort there. The party sailed past it, and on reaching Windsor built the trading house and surrounded it with a palisade, the ground having been purchased by the Plymouth people from the Indians. The first systematic plan formed for the settlement of C. was proposed to the general court of Mass. 1634. Strenuous opposition was made to the removal of so many families as were interested in the project, and while awaiting the decision of the court five impatient men started from Watertown and proceeded to a place about four m. below the present Hartford, where they erected huts, 1635, and spent the winter. The court consented to the removal of the petitioners, 1636, May, on condition that they would remain under the jurisdiction of Mass. The party was composed mainly of married men with their families, and included several religious congregations with their ministers, Messrs. Warham, Thomas Hooker, and Samuel Stone—the last two of whom had been ordained 1633, Oct. 11—church officers, and members. The five prospectors settled Hartford 1635, and the colonists took possession in the following year. The first court assembled there 1636, Apr. 26, and Messrs. Hooker

and Stone had pastoral charge of the first church 1636-47. The settlers of Windsor were from Dorchester, those of Hartford from Newtown (now Cambridge), Mass. Wethersfield was settled 1636 by people from Watertown, Mass.; the settlement of Springfield, Mass., was begun the same year, and buildings and fortifications were erected at Saybrook.

The second large settlement was made at New Haven, 1638, by a company which had left England in a body to form a settlement by themselves in the new world. They were under the spiritual leadership of the Rev. Mr. Davenport, and included a number of wealthy men. They spent their first Sabbath there Apr. 18, and at the close of a subsequent day of fasting and prayer formed the 'Plantation Covenant,' in which they bound themselves 'That, as in matters that concern the gathering and ordering of a church, so also in all public offices which concern civil order, as choice of magistrates and officers, making and repealing laws, dividing allotments of inheritance, and all things of like nature, they would, all of them, be ordered by the rules which the Scriptures held forth to them.' The three settlements bore the names of the places whence the settlers came, but not long afterward were changed by the court to their present names.

The first constitution of C. was formed at Hartford at an assembly of the free planters of the towns, 1639, Jan. 14. The preamble stated that they formed one public state or commonwealth for the establishment of order and government, and that they confederated for themselves and their successors to maintain the liberty and purity of the gospel and the discipline of the churches according to its institutions. This document is noted for being the first example in history of a written constitution organizing a govt. and defining its powers; it formed the basis of the charter of 1662, and that was considered so amply wise and sufficient in all its provisions that it was allowed to continue unaltered as the constitution of the state till 1818, when the present one was adopted. The early constitution provided for two general courts or assemblies annually, declared all to be freemen who had been received as members of the towns and taken the oath to the commonwealth, and required that the gov. should be a member of a regular church. The first assembly under the constitution met at Hartford, 1639, May, and thence till 1701 the sessions were held in that town; after that date one session was held in Hartford and the second in New Haven till 1874, when the former city became the sole capital. John Haynes was elected the first gov., with Mr. Ludlow deputy-gov., and Mr. Wells, treasurer.

The first law passed was the 'Bill of Rights' which ordained that 'unless by virtue of an express law of the colony sufficiently published, or in defect of such law, by some plain rule of God's word, in which the whole court shall concur, no man shall lose life or good name, be arrested, restrained, banished, dismembered, or in any way punished, deprived of wife, children, or property, under

color of authority.' It was also ordained that all persons in the colony, whether inhabitants or not, should enjoy the same law and justice without partiality or delay. The colony at New Haven formed a constitution shortly afterward, but it was not adopted till the following year.

Further settlements were made 1639, at the present Milford and Guilford, and the govt. of each was formed on the plan of New Haven. The towns formed large religious congregations and were first organized on the plan of a church. Rev. Mr. Davenport having taught that the church should rest on seven pillars, seven men known as the pillars of the church were chosen in each settlement to administer its affairs. They formed courts and were guided by the Scriptures till the written codes—which were held to be more formal expression of Scripture teachings—were drawn up and adopted. Milford, Guilford, and Fairfield were purchased from the Indians; the latter was settled by Mr. Ludlow. In 1640, the Indian chief Uncas sold the commonwealth, all his lands except what his people had planted; Westfield was purchased and occupied; Gov. Haynes bought Farmington for Hartford; New Haven purchased Greenwich, Stamford and Southold on Long Island, and a part of Norwalk was secured, the remainder being obtained, 1651.

In 1641, ten capital laws were adopted by the commonwealth, founded on the Scriptures. The crimes which were to be punished with death were (1) the worship of any but the true God; (2) blasphemy; (3) to be a witch, defined as one that 'hath or consulteth with a familiar spirit;' (4) murder with malice; (5) slaying through guile, as 'by poison or such other devilish practices;' (6) man stealing; (7) false witness to take away life; (8) conspiracy, rebellion, and invasion; (9) arson, cursing or smiting a parent; (10) notorious stubbornness in children after a specified age.

A confederation of all the New England colonies excepting R. I., which had been in contemplation seven years, was effected 1643, May 19, at Boston, under the name of 'The United Colonies of New England.' The gov. and deputy-gov. of C. were first paid for their services 1648, when their annual salary was fixed at £30, and a troop of horse was raised 1658, which was the first ever formed within the territory of C.

The general court of C. made application to the king of England 1660, May, for a patent, which was readily granted, and 1662, Apr. 20, the royal seal was set to the charter. The title given to the corporation was 'The Governor and Company of the English Colony of Connecticut in New England in America,' and it included all lands embraced in the original patent, and, among the rest, that of New Haven colony. The latter then legally ceased to be a separate colony, and was absorbed by the new corporation, after a period of negotiation lasting till 1665, May 11.

A census of C. was taken 1680, which showed 26 small towns, with 21 churches, 24 small vessels, 2,507 militiamen, 30 slaves, and an export business valued at £9,000 per annum; but no aggregate population, the last statistics

being for 1679, when the number of men was reported as 2,507.

From the earliest settlement the people of C. had experienced great trouble from the various Indian tribes; and now, with a charter virtually of their own arrangement they looked forward to an era of peace and progress. But events were ripening in England which threatened more serious consequences. James II. came to the throne 1685. The assembly addressed him a letter of congratulation, and prayed a continuance of their civil and religious privileges, to which he responded by issuing a *quo warranto* summoning the gov. and company of C. to show by what warrant they exercised certain privileges, and appointing Sir Edmund Andross gov. of New England. Andross arrived at Boston 1686, Dec. 19, and promptly demanded the surrender to him of C.'s charter, but the assembly seemed resolved to insist upon the rights of the colony. In 1687, Oct., while that body was in session in Hartford, Andross personally demanded the surrender of the charter and dissolved the assembly. In a moment the lights were extinguished, and the precious charter which lay upon a table was snatched away and concealed by Cap. Wadsworth in the hollow of an oak tree, where it reposed till after all danger had ceased. The last entry in the journal of the assembly typified the melancholy feelings of the colonists: 'At a general court at Hartford, October 31st, 1687, his excellency, Sir Edmund Andross, knight, and captain-general and governor of his majesty's territories and dominions in New England, by order from his majesty, James the Second, King of England, Scotland, France, and Ireland, the 31st of October, 1687, took into his hands the government of the colony of Connecticut, it being by his majesty annexed to Massachusetts, and other colonies under his excellency's government. FINIS.' On the dethronement of the king, 1689, the colonial govt. resumed all its functions as if nothing had happened. The charter is still preserved in Hartford, but the old oak was blown down 1856, Aug. This particularity is given the early history of C. because of the great influence of her men and measures upon the other colonies at the time, and subsequently upon the country at large. Her governmental organization of the state and of towns became in its leading principles the model in the later organization of many of the states.

During the French, Indian, Revolutionary, 1812, and civil wars, C. did more than her share of patriotic work. She instructed her delegates in the congress to propose a declaration of freedom of Great Britain 1776, June 14, and ratified the U. S. constitution 1788, Jan. 9, being the fifth colony to do so. She also gave the country the original Brother Jonathan, in the person of Gov. Jonathan Trumbull, so efficient in co-operating with Washington and so beloved by him.

Under her state organization her governors have been: Samuel Huntington, 1785-96; Oliver Wolcott, 1796-98, Jonathan Trumbull, 1798-1809; John Treadwell, 1809-11, Roger Griswold, 1811-13; John Cotton Smith, 1813-18;

CONNECTICUT RIVER—CONNER.

Oliver Wolcott, 1818-27; Gideon Jomlinson, 1827-31; John S. Peters, 1831-33; Henry W. Edwards, 1833-4; Samuel A. Foote, 1834-5; Henry W. Edwards, 1835-38; William W. Ellsworth, 1838-42; Chauncey F. Cleveland, 1842-44; Roger S. Baldwin, 1844-46; Isaac Toucey, 1846-7; Clark Bissell, 1847-49; Joseph Trumbull, 1849-50; Thomas H. Seymour, 1850-53; C. H. Pond (acting) 1853-4; Henry Dutton, 1854-5; William T. Minor, 1855-57; Alexander H. Holley, 1857-8; William A. Buckingham, 1858-66; Joseph R. Hawley, 1866-7; James E. English, 1867-69; Marshall Jewell, 1869-70; James E. English, 1870-1; Marshall Jewell, 1871-73; Charles R. Ingersoll, 1873-77; Richard D. Hubbard, 1877-79; Charles B. Andrews, 1879-81; Hobart B. Bigelow, 1881-83; Thomas M. Waller, 1883-85; Henry B. Harrison, 1885-87; Phineas C. Lounsbury, 1887-89; Morgan G. Bulkeley, 1889-93; Lazon B. Morris, 1893-95; O. Vincent Coffin, 1895-97; Lorin A. Cooke, 1897-99; George E. Lounsbury, 1899-1900; George P. McLean, 1901-03; A. Chamberlain, 1903—

Population.—State: (1790) 237,946; (1820) 370,792; (1870) 537,454; (1880) 622,700, of whom 305,782 were males, 316,918 females, 610,769 white, and 11,931 colored; (1890) 746,258; (1900) 908,355. The most populous *counties* (1890) were: New Haven, 209,058; Fairfield, 150,081; Hartford, 147,180; and New London, 76,634.

CONNECTICUT RIVER: largest river e. of the Hudson in the United States. It rises on the s. border of Lower Canada, near lat. 45° n., and, after a fall of 1,600 ft. and a s.s.w. course of at least 400 m., enters Long Island Sound, in lat. 41° 16' n. There are reasons to believe that its mouth anciently was at New Haven. It is the chief artery of all New England except Me. and R. I.; separating New Hampshire on the e. from Vermont on the w., and afterward crossing successively Massachusetts and Connecticut. It is navigable up to Hartford, 50 m., for a draught of 8 ft.; and up to Middletown, 16 m. nearer the sea, for a draught of 10 ft.; while, with a few subsidiary canals, it carries barges of eight or ten tons fully 200 m. above Hartford. The C. has many alluvial intervals on its banks, which, being generally inundated in the spring, are remarkable for fertility. The stream is noted for the quantity and the quality of its shad; and its valley, about 40 m. wide, presents a considerable variety of romantic and charming scenery.

CONNER, *kõn'nér*, DAVID, U.S.A.: 1792-1856, Mar. 20; b. Harrisburg, Penn. He entered the U. S. navy as midshipman 1809, Jan. 16; was commissioned lieut. 1813, July 24; commander 1825, Mar. 3; and capt. 1835, Mar. 3. During his naval career he removed the prisoners of H. M. S. *Peacock* to the U. S. S. *Hornet* after the engagement 1813, Feb.; was wounded and received a medal from congress, and a sword from the state of Penn. for gallantry in the action with the *Penguin* 1815, Mar. 23; established the blockade of Mexican ports on the gulf, and commanded the squadron on the coast two years; captured Tampico 1846, Nov. 11; superintended the landing of the

CONNING TOWER—CONOHORIA.

U. S. forces at Vera Cruz; and was in command of the navy yard, Philadelphia, when he died.

CONNING TOWER: in modern battleships a tower built over the forward turret, the place where the commander stands during a naval engagement, and from which he directs the movements of the ship and men by electricity. It is a circular chamber, scarcely 6 ft. across and protected by walls of steel 12 inches thick. The roof is also of solid steel.

CONNIVE, v. *kõn-nĩv'* [F. *conniver*—from L. *connivĕrĕ*, to wink or shut the eyes]: *lit.*, to close the eyes upon the faults or wrong-doings of another; to pretend ignorance of the faults of another; to overlook a wrong act; to aid or abet. **CONNI'VING**, imp. **CONNIVED'**, pp. *-nĩvd'*. **CONNI'VER**, n. one who. **CONNI'VANCE**, n. *-nĩvãns* [F.—L.]: pretended ignorance of, or blindness to, the faults of others.

CONNOISSEUR, n. *kõn'nĩs-sér'* [OF. *connoisseur*; F. *connaissanceur*, a critical judge—from OF. *conoistre*; F. *connaître*, to know]: a good judge in the fine arts; a discriminating or skilful critic, especially applied to painting and sculpture, etc.; called by the Italians, *cognoscenti*.

CONNOTE, v. *kõn-nõt'* [L. *con*, together; *noto*, I mark; *nōtātus*, marked]: to imply; to include; to betoken. **CONNO'TING**, imp. **CONNO'TED**, pp. **CONNOTATION**, n. *kõn'-nō-tã'shũn* [L. *con*, *notātiōnem*, making marks upon]: the act of designating with something; implication; inference. **CONNO'TATIVE**, a. *-nō'tã-tĩv*, attributive.

CONNUBIAL, a. *kõn-nũ'bĩ-ãl* [L. *connũbiãlis*, pertaining to wedlock—from *con*, *nũbo*, I marry]: pertaining to marriage; nuptial.

CONOCARDIUM, n. *kõ-nõ-kãr'dĩ-ũm* [Gr. *kōnos*, a cone; *kardia*, the heart]: a genus of mollusks, family *Cardiadae*. The shell is trigonal, conical, and gaping. Thirty species are known in N. America and Europe. They range from the Upper Silurian to the Carboniferous period.

CONOCARP, n. *kõ'no-kãrp* [Gr. *kōnos*, a cone; *karpos*, a fruit]: a fruit in which the seeds are arranged around a conical axis, as in the strawberry.

CONOCEPHALIDÆ, *kõ-no-sẽ-fãl'ĩ-dẽ* [*kōnos*, a cone; *kephalē*, head; L. fem. pl. adj. suf. *idæ*]: a family of trilobites. The glabella is narrow in front, the tail moderately developed, the thoracic rings fewer than in the *Paradoxida*, to which they are closely akin. **CONOCEPHALITES**, n. *kõ-no-sẽ-fãl-ĩ-tẽz*, typical genus of the *Conocephalidæ*.

CONODONTS, n. *kõ'no-dõnts* [Gr. *kōnos*, a cone; *odous*, a tooth]: certain minute bodies which, broadly speaking, seem like conical teeth, but vary much in form. Pander, and more recently Prof. Newberry, consider them the teeth of fishes.

CONOHORIA, n. *kõ no-hõr'ĩ-a* [Gr. *kōnos*, a cone; *horos*, a boundary, limit]: genus of plants, ord. *Violaceæ*. The leaves of *Conohoria Lobolobo* are used in Brazil for spinach.

CONOID--CONQUER.

CONOID and CONOIDAL: see under CONE.

CONON, *kō'non*: Athenian general. He commanded a fleet B.C. 413; was chosen one of the 10 generals who superseded Alcibiades 406; was defeated by Lysander at Ægospotami and fled to his friend King Evagoras of Cyprus, B.C. 405; obtained joint command with Pharnabazus of a Persian fleet, and with it defeated the Lacedæmonians near Cnidos, and thus deprived them of the empire of the sea B.C. 394. He restored the long walls and the fortifications of the Piræus and became ambassador to Persia. By some authorities he is said to have been murdered while in Persia; others assert that he escaped to Cyprus and died a natural death.

CONOPIDÆ, n. *kō-nōp'ī-dē* [Gr. *kōnōps*, a gnat or mosquito; L. *idæ*]: genus of *Diptera* with a distinct proboscis, the last joints of the antennæ forming a short style. The wings perfect. CONOPS, n. *kō'nōps*, typical genus of the family *Conopidæ*.

CONOSPERMIDÆ, n. *kō-no-spēr'mī-dē* [Gr. *kōnos*, a cone; *sperma*, a seed]: tribe of *Proteaceæ*, sub-ord. *Nucamentaceæ*. CONOSPER'MUM, -mum, genus of proteaceous plants, typical of the tribe *Conospermidæ*.

CONOVULUS, n. *kōn-ōv'ul-ūs* [L. *conus*, a cone; mod. L. *ovulum*, dim. of *ovum*, an egg]: genus of mollusks, family *Auriculidæ*; found in salt marshes on the sea-shore.

CONQUER, v. *kōng'kēr* [F. *conquérir*; OF. *conquerre*, to conquer—from L. *conquīrērē*, to seek after earnestly—from *con*, *quērērē*, to seek—*lit.*, to attain by seeking after earnestly]: to overcome by physical force, as an enemy in battle; to vanquish; to defeat; to subdue by argument or by moral influence; to gain by perseverance or effort. CON'QUERING, imp.: ADJ. victorious. CON'QUERED, pp. -kērd. CON'QUEROR, n. one who has obtained a victory. The epithet is especially applied to William of Normandy, who conquered England, 1066. According to some, William is improperly called the Conqueror; for, though victorious in battle, he had to come under an engagement to observe the laws of the realm before obtaining the crown. But this is not uncommon with conquerors. Speaking of what we usually call, though somewhat improperly, the right of conquest, Blackstone says that it is 'a right allowed by the law of nations, if not by that of nature; but which in reason and civil polity can mean nothing more than that, in order to put an end to hostilities, a compact is either expressly or tacitly made between the conqueror and the conquered that, if they will acknowledge the victor for their master, he will treat them for the future as subjects and not as enemies.' (*Blackstone, Comment.*, introd., § 4.) CON'QUERABLE, a. -ā-bl, that may be overcome. CON'QUEST, n. -kwēst [OF. *conqueste*, conquest: L. *conquisitus*, sought out, selected]: the act of overcoming by physical or moral force; success in arms; the thing conquered. THE CONQUEST, in *Eng. hist.*, the defeat of the Saxon Harold, and conquest of England by William of Normandy, A.D. 1066.—SYN. of 'conquer': to subdue;

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vanquish; overcome; surmount; subjugate; overpower, overthrow, defeat; rout; discomfit; reduce; crush; humble; subject; master;—of 'conquest': victory; subjection; subjugation; mastery; triumph; reduction

CON'QUEST, in the Law of Succession in Scotland: heritable property acquired during the lifetime of the deceased, by purchase, donation, or excambion. C., in a marriage-contract, is the difference between the possessions of the husband before and after marriage, allowance being made for the increased expenditure.

CON'RAD: see KONRAD.

CONRAD, *kõn'rad*, TIMOTHY ABBOTT: 1803–1877, Aug. 9; b. N. J.: scientist. He early applied himself to the study of natural history, conchology, and paleontology, and was subsequently connected with the surveys of N. Y. state, the Union Pacific railroad, and the Mexican boundary, writing the reports of the first, and reporting the paleontological features of the others. Beside his reports he published *American Marine Conchology* (begun 1831); *Fossil Shells of the Tertiary Formations of North America* (1832); *Paleontology of the State of New York* (1838–40); *Monography of the Family Unionidae*; and numerous articles in American and foreign scientific periodicals. He died at Trenton, N. J.

CONSALVI, *kon-sál've*, ERCOLE, Cardinal: 1757, June 8—1824, Jan. 24; b. Rome: reformer of abuses in the papal states. He was made cardinal and sec. of state by Pope Pius VII., and in this capacity concluded the concordat with Napoléon, 1801. His stanch maintenance of the rights of his own sovereign against the insidious encroachments of France offended Napoleon, who in 1806 demanded his removal from office; and the pope at last unwillingly consented, on the desire of C. himself, who was anxious that peace should continue. He was, however, again employed, 1815, in all the transactions between Rome and Paris, also in settling the internal affairs of the papal states. In the latter capacity, he reformed numerous abuses; and the measure known as the *Motu Proprio*, introduced by him, 1816, suppressed all monopolies, feudal taxes, and exclusive rights. He was a liberal patron of science, and especially of the fine arts, and employed his leisure in the study of literature and music. In diplomacy, he had great address, and was generally successful. He died in Rome.

CONSANGUINEOUS, a. *kõn'sǎng-gwǐn'ĩ-ũs* [L. *consanguiněũs*, related by blood—from *con*, *sanguis*, blood: It. *consanguineo*: F. *consanguin*]: related by birth or blood; descended from the same parent or ancestor. CON'SANGUIN'ITY, n. *-ĩ-tĩ*, relationship by blood—as distinguished from *affinity* or relationship by marriage; descent from the same ancestor.

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CONSANGUINITY: relationship between persons of the same blood. It is either *direct* or *lineal*—the relationship between ascendants and descendants—or *collateral* or *oblique* or *transverse*, between persons sprung from a common ancestor. In the *direct line*, a son is said to stand in the first degree to his father; a grandson, in the second degree to his grandfather; and so on. In the *collateral* or *oblique line*, two different modes of numbering the degrees of consanguinity have been in use, the one that of the civil, the other of the canon (or papal) law still in force, in parts, in the English Church. By the civil law, the degrees are separately numbered downward to each party from the common ancestor, the common ancestor not being counted: thus, brothers, being each one removed from the father, are in the second degree of consanguinity; uncle and nephew in the third; cousins-german in the fourth; and second cousins, or the children of cousins-german, in the sixth degree. By the canon law, consanguinity in the equal oblique line, i.e., where the parties are equally removed from the common ancestor, is computed by the number of degrees between one of them only and the common ancestor; brothers being said to stand in the first, and cousins-german in the second, degree to each other. In the unequal oblique line, i.e., in which the parties stand in different degrees of relationship to the common ancestor, the degree is determined by the number of steps between the common ancestor and the party further removed from him; thus, uncle and nephew are computed as in the second degree to each other, because the nephew, the further removed of the two, stands in the second degree to the common ancestor, his grandfather. The canon law computation is more generally used by English lawyers, though statute 22 and 23 Car. I. c. 10 adopts that of the civil law. Scotch lawyers, since the Reformation, have generally used the civil law mode of computation. 'Thus, a niece is related in the second degree to her uncle, because she is related in the second degree to her grandfather, the common stock; and by the same rule, she is no further removed from her uncle's son; which abundantly discovers the absurdity of that method of reckoning.'—*Erskine's Institute*, b. i. tit. vi. s. 8. For the different methods in which the degrees of C. and affinity are computed, see **MARRIAGE: SUCCESSION: HEIR:** etc.

Affinity is the relationship brought about by marriage between a husband and the blood-relations of his wife, or between a wife and the blood-relations of her husband. The relations of one spouse in any particular degree of consanguinity stand in the same degree of affinity to the other spouse. There is no relationship by affinity between the blood-relations of the husband and those of the wife.

Consanguinity and affinity have been at different times and in different parts of the world more or less looked on as impediments to marriage between the parties related. Among the ancient Persians and Egyptians, marriages are said to have been sometimes sanctioned between brother and sister, and even father and daughter. The Athenians,

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while permitting marriages between brothers and sisters uterine, prohibited them between the same relations by the father's side or the full blood. In the book of Genesis, we read of Abraham marrying his half-sister. The Levitical law prohibited marriage between relations in the direct line, between brother and sister, nephew and aunt, and apparently by implication, uncle and niece. A son was prohibited from marrying his father's wife.

The Roman law prohibited marriage between ascendants and descendants, a prohibition extended to relations by adoption, and even after the dissolution of that tie. In the collateral line, the prohibited degrees included brother and sister (extending to persons so related by adoption where the tie continued to exist), and all cases where one party stood *in loco parentis* to the other, as uncle and niece. Marriage between cousins-german, at one time prohibited, was declared lawful by Arcadius and Honorius. The degrees prohibited in consanguinity were by Constantine also prohibited in affinity.

By the old canon law and early decretals, marriages were prohibited between persons as far removed as the seventh degree of consanguinity or affinity—i. e., between persons who might, by the civil law computation, be within the twelfth degree to one another. The fourth council of Lateran, 1215, narrowed the prohibition from the seventh to the fourth degree; i. e., the grandchildren of cousins-german. Affinity was held to be constituted not merely by marriage, but by the spiritual relationship of standing sponsor at baptism, and by illicit intercourse; marriage being prohibited between persons one of whom had had carnal connection with a relation in the fourth degree of the other. A marriage between persons related in any of these ways was accounted incestuous, and the children bastards. The pope assumed the right of granting dispensations from impediments to marriage arising from consanguinity and affinity, a power which seems to have been exercised first in the 12th century. In no instances have dispensations been granted to relations in the direct line, but one or two dispensations are said to have been granted between brother and sister; and between uncle and niece, they are still occasionally granted in countries where the canon law continues binding. Between remoter relations, they have been common. The extent to which these prohibitions were carried, and the possibility of their being dispensed with, naturally tended to encourage profligacy and lax ideas of the marriage tie, it being hardly possible to say of any marriage that it might not one day be proved invalid. The Council of Trent restricted the impediment of affinity from illicit intercourse to the second degree.

In the countries which embraced the Reformation, a general relaxation took place in the prohibitions to marriage from consanguinity and affinity. In England, 32 Hen. VIII. c. 38 allowed all persons to marry who were not prohibited by the Levitical law; and according to the interpretation put on this statute, the prohibitions included all relations in the direct line, brother and sister, and collater-

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als, when one party is brother or sister to the direct ascendant or descendant of the other; the degrees prohibited in consanguinity being equally prohibited in affinity. The prohibitions from consanguinity have been held to extend to bastard relations. But down to 1835, marriages within the prohibited degrees were valid and the issue legitimate, unless the marriage had been annulled by a declaratory sentence of the Ecclesiastical Court, which could be obtained only while both spouses were alive. By act 5 and 6 Will. IV. c. 54, all marriages within the prohibited degrees of consanguinity and affinity were made absolutely void.

In Scotland, for a very short time after the Reformation, the papal power of dispensation was exercised by the crown. Acts 1567, c. 14, and 1567, c. 15, professing to take the Levitical law as the standard, assimilated the prohibitions from consanguinity and affinity to those of England. Incest, or sexual intercourse with persons within the prohibited degrees, was, by the former statute, made a capital crime. As to marriages between bastard relations, the law of Scotland is in a doubtful state; but there is no prohibition against marriage with a relation however near of a person with whom one has had sexual intercourse.

In France, the Code Napoléon prohibits marriage between ascendants and descendants lawful or natural, and persons similarly connected by affinity; and in the collateral line between brothers and sisters lawful or natural, and persons similarly connected by affinity. Marriage between uncle and niece, and aunt and nephew, also is prohibited. In Spain and Portugal, the canon-law restrictions are in full force, with the corresponding system of permissive dispensations. In various countries of Europe, as Denmark, no prohibitions from affinity, except in the direct line, are recognized. In most of the United States of America, marriage is allowed between uncle and niece; though there seems a frequent supposition that there is some sort of tacit prohibition of marriage between nephew and aunt.

CONSCIENCE, *n.* *kōn'shēns* [F. *conscience*—from L. *conscientiā*, a knowing in one's self, conscience—from *con*, *sciēns*, knowing: It. *conscienza*]: self-knowledge or judgment of right and wrong; the power or faculty by which we judge of the rectitude or wickedness of our own actions; that particular action of our consciousness whereby it recognizes the moral character of everything which we feel, say, or do; justice; real sentiment; truth; candor; scruple: see ETHICS. CON'SCIENCELESS, *a.* CON'SCIEN'TIOUS, *a.* *-shē-ēn'shūs*, regulated by conscience; scrupulous or exact, as in word or deed. CON'SCIEN'TIOUSLY, *ad.* *-lī*. CON'SCIEN'TIOUSNESS, *n.* a scrupulous regard to the decisions of conscience. CONSCIOUS, *a.* *kōn'shūs* [L. *consciūs*, privy to]: possessing the power of knowing one's own thoughts and actions; having knowledge of anything without extraneous information; aware; sensible. CON'SCIOUSLY, *ad.* *-lī*. CON'SCIOUSNESS, *n.* the state of being awake or sensible; the knowledge of what passes in one's own mind; the whole exercise of the mind's reflex action whereby it both feels and

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knows, and knows that it feels and knows. CON'SCIONABLE, a. *-shūn-ă-bl*, governed by conscience; according to conscience; reasonable; just. CON'SCIONABLY, ad. *-ă-blŭ*. CON'SCIONABLENESS, n. *-ăbl-nēs*. CONSCIENCE CLAUSE, an article in an act or law which relieves persons who object to engage or participate in religious acts—as in taking judicial oaths, or having their children present during the time set apart for religious instruction at school. CONSCIENCE-MONEY, money forwarded, as a rule anonymously, to a financial officer for unpaid taxes or other dues. CONSCIENCE-PROOF, a. proof against the monitions and reproofs of conscience. SELF-CONSCIOUSNESS, the sense of personal identity.—SYN. of 'conscientious': scrupulous; faithful; exact; upright; just;—of 'conscious': aware; sensible; apprised;—of 'consciousness': feeling; sensation; perception; sensibility; susceptibility; emotion; passion; sense; reflection.

CONSCIENCE, COURTS OF, in England: courts for the recovery of small debts. They were called also *Courts of Requests*. On the establishment of county courts (q.v.), they mostly were abolished.

CONSCIENCE, *kōng-se-ōngss'*, HENDRICK: most fertile and original writer of fiction in Belgium: 1812, Dec. 3—1883, Sep. 10; b. Antwerp, where his father was inspector of the dockyards, until he became a dealer in waste-paper, old books, etc. C. educated himself by the aid of his father's miscellaneous store of books until his 15th year, when he entered a school, where he was engaged to assist the master in teaching. On the breaking out of the revolution in 1830, C. joined the ranks under General Niellon, and served till 1834, when he left the service, being disgusted with the stricter discipline that was being introduced. Having failed in all his attempts to obtain employment, he tried his hand at writing, and composed in Flemish the novel, *In het Wonderjaer 1566* (Ghent 1837), which, notwithstanding its unprecedented success, left him in debt with his printer. His father refused to do anything for him until he took up some regular employment; and he was thus driven from home almost penniless. At this time, the painter Wappers interested himself for him, and procured him some slight assistance from the king. C. now wrote his *Phantasia*, a collection of fantastic tales, and his celebrated historical novel, *De Leeuw van Vlaanderen* (Antw. 1838); but being soon dissatisfied with the small pay and irksome work of the post he had obtained in a government office, he threw up all his avocations, and for a year worked as a gardener. Wappers again befriended him, by inducing the king to give him the place of registrar at the Royal Acad. of Painting at Antwerp. In 1845, he was appointed to instruct the royal children in Flemish. At his death, he held the post of keeper of the Wiertz Museum. C. wrote numerous tales and novels, most of which have been translated into French and German, and some into English—as, for instance, his *Sketches of Flemish Life*, of which several English translations have been made; *Demon of*

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Gold, Lion of Flanders, etc. C. has written two historical novels, *Geschiedenis van Graef Hugo van Craenhove* (1845), and *Jakob van Artevelde* (1849), which are esteemed among his best; but his *forte* lies rather in the delineation of simple village life. His *Illustrated History of Belgium* (1845) is interesting as a national work, but of little value as an authority. In 1870, he published *Bavò en Lieveken*; in 1871, *De Kerels van Vlanderen*; in 1874, *De Keus des Harten* and *Eene Verwarde Zaak*; in 1875, *Schandevrees*; in 1876, *Gerechtigheid van Hertog Karel*. C. contributed largely to the revival of Flemish literature.

CONSCIOUSNESS: one of the most comprehensive terms employed in designating the mind. If it had been used only in its widest signification, there would have been little difficulty in defining it; but unfortunately there are some exceedingly important meanings of a narrower range that are commonly expressed by it, rendering it an ambiguous or equivocal term, and like all such terms, a source of fallacy and misapprehension.

In the widest meaning, C. is almost identical with mind in action. When we are mentally alive, or performing any of the recognized functions of the mind, we are said to be conscious; while the total cessation of every mental energy is described by the term 'unconsciousness,' among other phrases. In dreamless sleep, in stupor, fainting, and under the influence of the anæsthetic drugs, we are unconscious; in waking, or rallying into renewed mental activity, we are said to become conscious.

As the mind in its waking or active condition may be more or less excited, or vary in the intensity of its manifestations, there are degrees of C.; and, in accordance with a very common usage, the name is apt to be applied to denote the higher degrees in opposition to the lower.

In first learning to write, to cast up sums, or to play on an instrument, the mind is put very much on the stretch; in other words, one is very much excited or highly conscious. When years of incessant practice have consummated the process into a full-formed habit, a very small amount of mental attention is involved; and one may then be said to perform the work all but unconsciously.

Adverting to the special or restricted meanings of the term, we find them to be those most important in philosophical discussion. In the first place, the term is applied to denote the mind's cognizance of itself, as opposed to the cognizance or examination of the outer world. Hence, in studying our own minds, we are said to be using C. as the instrument; but in studying minerals or plants, we resort to external observation by the senses. A contrast is thus instituted between C. and observation, which contrast gives to the former word a peculiarly contracted meaning; for in the wide sense first noted, observation is truly an act of consciousness.

In the next place, C. is sometimes identified with Belief. We often express a strong affirmation by saying that we are quite conscious that such a thing is so. It is the strong instinctive tendency of our nature to believe a number of

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things before we have either gone through any large experience of matter of fact, or have deeply reasoned out the propositions involved. The believing function is a prominent attribute of mental activity. We are scarcely able to feel or act without the operation of belief, or without making assumptions in anticipation of the reality. We believe first, and prove or disprove afterward. The more intensely we are made conscious, the more strongly we pass into these intuitive convictions. We unhesitatingly believe in the future persistence and universal prevalence of the order of things that we are born into, until such time as our experience gives us a check. Our emotions all produce beliefs in proportion to their strength. Fear makes us believe in coming evil; joy and elation give confidence in coming good. So that it is true to a certain extent, that the state of belief is engendered together with C., and is stronger as that is stronger; but it does not follow, as is frequently maintained, that to be conscious of every affirmation is to verify it, because our C. cannot be presumed to lie: see COMMON SENSE.

Correct usage, therefore, would dictate the employment of the term in question in only the one sense, in which it is co-extensive with being mentally alive, as opposed to sleep, torpor, insensibility, etc. Anything that renders the mental activity more intense, that increases the whirl of the brain (such as strong pleasures and pains, great interest in anything that is going on, etc.) is designated by the positive term C.; the opposite condition, and also the feebler modes of excitement, are expressed by the negative—unconsciousness. All mere special and restricted applications should be forborne, as introducing confusion into thought, and error into philosophy. The study of our own mind may be expressed by such phrases as 'self-consciousness,' 'introspective attention,' and the like. As it is an entire fallacy to talk of C. in general as finally alone accrediting doctrines or matters of belief, any acceptance of the word implying this should be avoided.

Points of great importance are involved in the determination of the *conditions* of C., or the circumstances attendant on the manifestation of mental excitement; in other words, the stimulants of our emotional and intellectual wakefulness. The most general and fundamental condition of our becoming conscious, as regards influences external to the mind, is *change*. The even continuance of one impression tends to unconsciousness; and there are a number of facts that have been adduced to show that if an influence were present in one unvarying degree from the first moment of life to the last, that influence would be to our feeling and knowledge as if it did not exist at all: see CONDITIONED, THE PHILOSOPHY OF THE.

Immanuel Hermann Fichte (q.v.) *Contributions to Mental Philosophy*, trans. by Morell (Longmans 1859), made an attempt to establish the existence of a Preconscious Mind, distinct from our conscious life, and not dependent like that upon the bodily organization. He considers the power of germination and growth—or that energy, what-

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ever it is, that unfolds the germ and conducts it to a completely formed organization—as a function of the mind or soul; and couples this power of germination with the following things—namely, the instincts; the processes of intelligence that we seem to go through without being aware of the steps, as in the sudden inspirations of men of genius; with all the mysterious phenomena of second-sight, clairvoyance, etc.; and the aggregate of this he erects into a preconscious mind or soul, the contrast of C. as above defined. For the varieties or divisions of our conscious states, see MIND: see also DOUBLE CONSCIOUSNESS.

CONSCRIPTION, n. *kõn-skřip'shũn* [F. *conscription*—from L. *conscriptionem*, a writing—from *con*, *scriptus*, engraved or written]: a forced enrolment of all males between certain ages for naval or military service, adopted in France and other continental countries. CONSCRIPT, n. *kõn'skřipt* [F. *conscriit*—from L. *conscriptus*]: one drawn by lot from the enrolled list: ADJ. enrolled; registered. CONSCRIPT-FATHERS, senators of anc. Rome, so called because when Brutus added 100 to the number of the senate, the new names were written together (*con-scripti*) with the old.

CONSCRIP'TION, in Milit.: defined by Littré as 'the call to military service by the drawing of lots;' thus not properly synonymous with compulsory military service. The word applies to the system which obtained in France, with intervals, from 1798 till the end of Napoleon III.'s reign. Some other armies have been similarly recruited. In France, all citizens were liable to be called; but only a certain annual contingent of men for the army (sometimes greater, sometimes less) was demanded from the country; and in the several communes, the corresponding proportion of the youths of the district who had reached military age were selected by lot. With this system was practically bound up the possibility of buying one's self off, or of paying for a substitute. Conscription therefore differed widely from the systematic universal service now required in France, Germany, and some other countries. Since 1872, personal military service is demanded from every Frenchman not physically incapacitated. All are called to enter the army at the age of 20; but those who choose to enlist may enter at 18. The term is for 5 years in the regular army, 4 in the army reserve, 5 in the territorial army (militia), and 6 in the territorial reserve. This brings the conscript to 40 years of age, when his liability to service ceases. The law of 1872 reorganizing the French army, forbids the providing of substitutes by conscripts. An account is kept of the number of youths in France who reach the age of 20 in each year (about 280,000). All those are exempt from military service who are under 5 ft. 2 inches in height; or have any natural infirmities unfitting them for active service; or are the eldest of a family of orphans; or are the only sons of widows, or of disabled fathers, or of fathers above 70 years of age; or are intended for the priesthood; or are pupils at certain colleges. Moreover if two brothers be called to serve, and the younger is

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efficient, the elder is declared exempt; and if of two only brothers one is already in the army, or has retired through wounds or infirmity, the other is exempt. Culprits and felons are not allowed to enlist. The law of 1872 making military service obligatory on all Frenchmen (save in the above cases) has assimilated the French army system to that enforced in Prussia since 1813.

CONSECRATE, *v.* *kõn'sě-krāt* [*L. consēcrātus*, dedicated or devoted to a deity—from *con*, *sācer*, sacred: *It. consecrare*: *F. consacrer*]: to make or declare sacred; to set apart or dedicate to the service and worship of God; to render venerable or make respected. CON'SECRA'TING, *imp.* CON'SECRA'TED, *pp.*: *Adj.* made sacred; dedicated. CON'SECRA'TOR, *n.* *-tēr*, one who. CON'SECRA'TION, *n.* *-krā'shūn* [*F.—L.*]: a separation from a common to a sacred use; the act of dedicating to the service of God; the act of separating a person for the office of a bishop. CON SECRA'TORY, *a.* *-tēr-ī*, making sacred. CON'SECRA'TEDNESS, *n.*—*SYN.* of 'consecrate': to dedicate; devote; hallow.

CONSECRA'TION: act of solemnly and sacredly dedicating a person or thing to the service of God. It was one of the most widely spread religious ceremonies of the ancient world, being practiced in India, Egypt, Chaldæa, Judæa, Greece, Rome, Britain, and other countries. In the Old Testament, we read of the C. or sacred dedication of the first-born, both man and beast, to the Lord; also the sacred dedication of the Levites, of the tabernacle and altar, of fields, houses, walls, etc. This custom, at least so far as regarded places and things, did not pass immediately from Judaism to Christianity, for the latter being more or less a persecuted religion until the time of Constantine, could not venture to indulge with safety in any public ceremonialism; but no sooner was the sword of persecution sheathed than, according to Eusebius, 'the sight was afforded us, so eagerly desired and prayed for by all—the festivals of dedications and consecrations of the newly erected houses of prayer throughout the cities.' Eusebius himself describes the C. of the church built at Jerusalem by Constantine, 335. The practice of consecrating religious edifices has continued to the present day in the Roman and Anglican churches. The forms were at first very simple, consisting chiefly of prayer, the celebration of the Lord's Supper, thanksgiving, and benediction; but they afterward became more numerous and imposing, while, also, the bishops and higher dignitaries assumed to themselves all the power of consecrating. An important part of the C. of Rom. Cath. churches consists in the deposition of relics for a time upon the altar. In the English Church, each bishop is left to his own discretion as to the form of C. to be adopted, but that most generally used is the form sent down by the bishops to the lower houses of convocation 1712. The English Church retains also the C. of burying-grounds.

C. OF ARCHBISHOPS AND BISHOPS.—According to a canon of the first Nicene Council, there must be four, or

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at least three bishops present at the C. of an archbishop or bishop. The form used in the Church of England is that prepared in the reign of Edward VI. The Roman Church denies the validity of English orders generally, as derived from heretical and improperly consecrated bishops. They had an old story, refuted by their own historian Lingard, which is known as that of the 'Nag's Head Consecration.' According to this story, Abp. Parker was consecrated at the Nag's Head Tavern, Cheapside, by one of the Prot. bishops present laying a Bible on his head, and saying: 'Take thou authority,' etc. Lingard thus relates the facts: 'Barlow, the deprived Bishop of Bath, and Hodgkins, once Suffragan of Bedford, who both had been consecrated according to the Rom. Cath. pontifical, in the reign of Henry VIII., and Scorey, the deprived Bishop of Chichester, and Coverdale, the deprived Bishop of Exeter, who both had been consecrated according to the Reformed ordinal, proceeded to confirm the election of Parker, and then to consecrate him after the form adopted in the reign of Edward VI. A few days later, Parker, as abp. confirmed the election of Barlow to the see of Chichester, and of Scorey to that of Hereford, and with these for his assistants, consecrated all the other prelates elect.' The C. took place in the chapel at Lambeth, as appears by the abp's. register, and Lingard says that there is nothing to countenance the supposition of the entry being other than authentic. The story probably arose from a fact, mentioned by Fuller, that the commissioners who confirmed Parker's election dined at the Nag's Head, a tavern much frequented by the country clergy.

CONSECRATION OF THE ELEMENTS: see LORD'S SUPPER.

CONSECTARY, n. *kõn-sěk'tér-ĩ* [L. *consectāriũs*, that follows logically]. in *OE.*, a deduction from premises; a consequence; a corollary.

CONSECUTION, n. *kõn'sě-kũ'shũn* [L. *consēcūtĩõnem*, a consequence—from *con*, *secũtus*, followed]: a train of consequences from premises; succession; series of things that follow each other. CONSECUTIVE, a. *-sěk'ũ-tiv* [F. *consécutif*, consecutive—from mid. L. *consecũtivus*]: following one another in regular order; succeeding; in *music*, a term applied to octaves and fifths, whose succession, according to the rules of harmony, is strictly forbidden. CONSECUTIVELY, ad. *-lĩ*. CONSECUTIVENESS, n. *-něs*.

CONSEGUINA, *kõn-sā-ghě'nā*: volcano of Nicaragua, occupies a promontory on the s. side of Fonseca Gulf, about 10 m. from the Pacific Ocean. The crater, at an elevation of about 4,000 ft. above the mean level of the surrounding country, is about half a mile across, and its interior descends perpendicularly to a depth of 200 ft. In 1835, a fearful eruption, the last on record, converted into a waste a large tract of grazing-land.

CONSENSUAL, a. *kõn-sěn'shũ-ũl* [*con*, together; L. *sensus*, discerned by the senses]: in *phys.*, a term applied to movements contrary to, or independent of, the will, which arise from previous contrary movements, as in the

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contraction of the iris when the eyes are voluntarily directed upward; excited or caused by sensation or reflex action. **CONSENSUS**, n. *kõn-sẽn'sũs* [L. *consensus*, agreement]: unanimity; agreement; concord: see **CONSENT**.

CONSENT, n. *kõn-sẽn* [F. *consentir*—from L. *consentirẽ*, to agree—from *con*, together; *sentirẽ*, to think, to feel. It. *consentire*]: a yielding of the mind or will to the proposals or conditions of another; a conceding what may be withheld; concurrence; agreement. **V.** to think or agree together with another; to yield; to agree in mind and will; to permit. **CONSENTING**, imp.: **ADJ.** giving consent; approving. **CONSENTED**, pp. **CONSENT'ER**, n. one who. **CONSEN'TANE'ITY**, n. *-tũ-nẽ'ĩ-t'ĩ*, mutual agreement. **CONSENT'ANEOUS**, a. *kõn'sẽn-tĩ'n'ũs*, agreeable; consistent with. **CON'SENTA'NEOUSLY**, ad. *-l'ĩ*. **CON'SENTA'NEOUSNESS**, n. **CONSENTIENT**, a. *kõn-sẽn'sh'ĩ-ẽnt*, agreeing in mind. **CONSENT'INGLY**, ad. *-ĩng-l'ĩ*.—**SYN.** of 'consent, n.': agreement; assent; acquiescence; concurrence;—of 'consent, v.': to assent; yield; agree; accede; comply; concede; allow; acquiesce; admit; concur; permit; accord.

CONSENT', in Law: foundation of all contracts and legal obligations of every kind. This statement is often in the mouths of lawyers, but its magnitude and importance are probably not always apparent even to them. The doctrine that the free C. of the parties bound, and not the will of any earthly legislator, or the form in which that will is expressed, constitutes the binding element in contracts, flows as an inevitable logical consequence from the doctrines of personal and political freedom. Yet this is frequently forgotten in speech and action; thus, it is said that persons are married by the priest, and divorced by the court, whereas it is obvious that a valid marriage, like every other contract, can be made and unmade only by the contracting parties; and that all that either civil or ecclesiastical authority can do, is to ascertain and register in due form at the instance of one or other of them, whether it *has* been made or unmade. From overlooking this point of view, differences between legal systems, which are merely external, are often supposed to be fundamental. Thus the law of Scotland, which admits several ways of proving matrimonial C. which the law of England rejects, is on this account supposed to differ from it *in principle*. The only question between them, in reality, is as to whether the circumstances which the law of Scotland admits in proof of the existence of C. do or do not prove it in point of fact. If it be true that the only means by which it can be ascertained that two persons do agree to be man and wife, is by their declaring their agreement either before a clergyman or before a specified civil officer, then the law of England does right in rejecting all other evidence. If, on the contrary, the fact can be established, as is believed in Scotland, by other means, such as a declaration before witnesses, or an exchange of writings, then the law of Scotland is right in admitting these means of proving it, and making the question of marriage or no

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marriage, as it does, one of simple proof. The difference between the two systems is thus seen to be one not of principle, but of expediency—a question, not in the law of marriage, or of contracts, which is the same in both countries, and in every country, but in the law of evidence.

The practical question as to how C. shall be proved, is one surrounded at all times with great difficulty. That its absence may be assumed in the case of all persons of imperfect understanding, and, consequently, that the power of contracting should be denied to idiots, madmen, and pupils, helps us but a little way. The real difficulty lies in distinguishing, in the case of grown and sane men, between such *real* C. as may be safely assumed to be a deliberate act of the reason; taking that word in its widest sense, and such *apparent* C. as may have had its motive in caprice, passion, ignorance, or any temporary and accidental aberration of mind. See CONTRACT.

CONSENTES DII, *kõn-sen'tēz dī-ī*: in Roman mythology, the 12 chief deities: Jupiter, Apollo, Mars, Neptune, Mercury, Vulcan, Juno, Vesta, Minerva, Ceres, Diana, Venus.

CONSEQUENT, a. *kõn'sě-kwěnt* [F. *conséquent*—from L. *consequens* or *consequen'tem*, following thoroughly: L. *consequentiā*, a consequence—from *con*, *sequens*, following: It. *conseguente*]: following as a natural effect, or by necessary inference: N. that which follows a cause; an effect. CONSEQUENCE, n. *-kwěns*, that which naturally follows an effect; an event or effect resulting from some preceding act or cause; result or issue; importance. CONSEQUENTLY, ad. *-lī*, by or in consequence; necessarily. CONSEQUENTIAL, a. *-kwěn'shāl*, following as the effect; important; conceited; pompous. CONSEQUENTIALY, ad. *-lī*, with a just deduction of consequences; by consequence; eventually; not immediately. IN CONSEQUENCE, by reason of; owing to; as the effect of. OF NO CONSEQUENCE, not important in itself. —SYN. of 'consequence': result; end; effect; importance; weight; moment; influence; deduction; induction; conclusion;—of 'consequently': accordingly; therefore; wherefore; then; hence; thence; since; because; as; so.

CONSERVATOIRE, *kõn-sér'vā-twār*, or CONSERVATORIUM—in the United States, sometimes CONSERVATORY (Ital. *conservatorio*): schools instituted for advancing the study of music and maintaining its purity. In the earliest times, these schools were partly attached to benevolent institutions and hospitals; others were supported by opulent private individuals. They were intended originally for foundlings, orphans, and the children of poor parents. Some trace their origin to St. Ambrose, B. of Milan in the 4th c., or St. Leo, in the 5th. The scholars, male and female, all received free board, lodging, clothing, and were taught to sing and play. Extra boarders also were admitted on paying a fee. In Naples, there were at one time three such schools and in Venice four, expressly for females. In 1818, the Neapolitan conservatoires were reduced to one, under the name of Real Collegio di Musica. The Venetian

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conservatoires shared in the downfall of the Venetian republic. A new grand C. was founded at Milan 1808, which still exists. In France, the necessity of a school for educating singers gave rise to the *Ecole Royale de Chant et de Déclamation*, 1784. During the French Revolution, in consequence of the scarcity of instrumental musicians for the army, the government decreed the erection of an Institut National de Musique, 1793, which was changed into the present establishment, 1795, under the name of the C. de Musique. The yearly expenses of this C. were fixed at 240,000 francs, the number of masters were 115, and the pupils of both sexes amounted to 600. 1802, the expense was reduced to 140,000 francs, with a corresponding reduction in the number of masters and pupils. The course of study is divided over 66 different classes, in which all appertaining to music and also declamation is taught by the best masters. The elementary works published by this C. for all instruments are known over the whole world. Other important conservatoires are those of Brussels (founded 1833), Prague, Vienna (1816), and the great conservatorium of Leipzig, established 1842 under the auspices of Mendelssohn; also those of Cologne, Munich, Stuttgart, Berlin, etc. The Royal College of Music in London, which received a charter in 1882, is designed to rival the conservatoires of the Continent. In some of the chief American cities are institutions known by the name conservatory, of which the largest and most notable is in Boston.

CONSERVA'TOR OF THE STAPLE: see CAMPVERE.

CONSERVATORS OF THE PEACE: officials who have in charge the public peace. In Britain, the sovereign, by virtue of his office, is the principal conservator of the peace. The function which he thus possesses he may delegate, thus constituting a subject a conservator of the peace. The office, however, must always be exercised in the sovereign's name, which explains the common expression, the king's or the queen's peace. Several high officers of the crown, the chancellor or keeper, the lord high steward, the lord marshal, and the lord high constable, when there are such officers, all the justices of the queen's bench, the master of the rolls, are C. of the P. throughout the kingdom, and may commit breakers of the peace or bind them in cognizances anywhere. Other judges possess this power only within the limits of their own jurisdiction. The sheriff and coroner are C. of the P. within their respective counties, and constables, tithing-men, etc., within their jurisdictions. But in addition to these official conservators, others were appointed expressly for the purpose, previous to the appointment of justices of the peace, in the reign of Edward III. Their powers were far inferior to those of the justices, being confined exclusively to the function which the name indicates. The lords of manors frequently possessed the powers of conservators within their manors by prescription, and it was not unusual for lands to be held on the tenure of discharging the duties of a conservator of the

peace within the county. Lastly, conservators were appointed by letters-patent from the crown in cases of emergency for the preservation of the peace in particular districts. All these different kinds of conservators, with the exception of those judges and others who are conservators *ex officio*, were superseded by the appointment of justices of the peace (q.v.). In the United States, the assignments of persons as conservators of the peace are of the same general kind as in Great Britain; but with the fundamental difference in theory, which appears in legal phraseology, that the 'peace' is the peace of the United States, or of the states severally, and its conservators are held to the duty of preserving the peace of the people, to whom sovereignty pertains.

CONSERV'ATORY, in Horticulture: house for the cultivation of tender exotic plants, which, though requiring protection from frosts, and a little assistance of artificial heat, do not need the heat of the hothouse or, as it is often called in England, the stove. The only distinction between a C. and a green-house is, that in the former the plants grow in borders of earth; in the latter, they are in pots, and these two characters are often combined. The structure, management, etc., are much the same for the C. as for the green-house; but in the warmer parts of the country, the roof and even the sides are with advantage made capable of being removed in summer. In all situations, the most free and frequent ventilation is requisite. A C. is often attached to a residence, so as to communicate directly with one or more of the apartments, instead of being placed in the garden. For *C. of Music*, see CONSERVATOIRE.

CONSERVE, n. *kôn'serv* [F. *conserver*, to preserve—from L. *conservare*, to keep thoroughly — from *con*, *servare*, to keep, to preserve: It. *conservare*, the act of keeping thoroughly]: fruit crushed and preserved among sugar; jam; any fruit or vegetable matter preserved by sugar: conserves are made by confectioners as sweet-meats, and by druggists as vehicles for more active medicines: V. *kôn-serv'*, to keep in sound or safe state; to defend from injury; to preserve fruits, etc., by means of sugar. CONSERV'ING, imp. CONSERVED', pp. *served'*. CONSERVER, n. one who. CONSERV'ABLE, a. *-vâ-bl*, that may be preserved from injury. CONSERV'ANCY, n. *-vân-sî*, the keeping or preserving from undue or irregular use, or injury, as the fishing of a river, or the health of a town. CONSERVATION, n. *kôn'sér-vâ'shûn*, the keeping of a thing in a safe or entire state. CONSERV'ANT, a. preserving; having the power of preserving from decay. CONSERV'ATIVE, a. *-vâ-tiv*, able to preserve from loss, decay, or injury: N. that which preserves; in *politics*, one opposed to unwarranted or hasty changes in the state—first used of the tory party about 1830: see WHIG AND TORY. CONSERV'ATIVELY, ad. *-lî*. CONSERV'ATIVENESS, n. CONSERVATISM, n. *-tizm*, the principles and opinions of conservatives. CONSERVA'TOR, n. *-vâ'tér*, an individual who has the charge of preserving anything, as the public peace, a museum, etc. CONSERVATORY, a. *-vâ-ter-î*, having the quality of preserving from loss or

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decay: N. also CONSERVATO'RÍUM, n. -vǎ-tō'rǐ-ǔm, a place where anything is kept as nearly as possible in its natural state, as plants in a greenhouse, etc.; a greenhouse. CONSERVATOIRE, n. kǒn-ser'vǎ-twár [F.]: a public school of music. CONSERVATION OF ENERGY, the principle that the amount of energy in the universe is constant, and can only be changed in kind, as into heat, light, sound, etc., but not diminished or increased: see FORCE.

CONSHOHOCKEN, kǒn-shō-hǒk'én: borough of Montgomery co., Penn., on the Schuylkill river and the Philadelphia and Norristown railroad, 3 m. s. of Norristown, 13 m. n.w. of Philadelphia. It contains five churches, a national bank, one newspaper, several blast furnaces, machine shops, and rolling mills, three cotton mills, and manufactories of gas and water pipes and artificial stone. It is connected by bridge with West C. on the s.w. side of the river, which has a station of the Reading railroad. Pop. (1870) 3,071; (1880) 4,561; (1890) 5,470; (1900) 5,762.

CONSIDER, v. kǒn-sǐd'ér [F. *considérer*—from L. *considerāre*, to look at carefully: It. *considerare*: according to some connected with *sīdēra*, the stars]: to look at carefully; to fix the mind on; to think on with care; to ponder; to meditate on; to reflect; to deliberate. CONSIDERING, imp. CONSIDERED, pp. -ērd. CONSIDERABLE, a. -ēr-ǎ-bl, that may be considered; important; valuable; moderately large. CONSIDERABLY, ad. -ǎ-blǐ, in an important degree. CONSIDERABLENESS, n. kǒn-sǐd'ér-ǎ-bl-nēs, state of being considerable; importance; moment. CONSIDERATE, a. kǒn-sǐd'ér-āt, thoughtful; careful; prudent; having regard to. CONSIDERATELY, ad. -lǐ, in a considerate manner; calmly; coolly. CONSIDERATENESS, n. CONSIDERATION, n. -ā'shūn, mature thought; reflection; regard; notice; claim to notice; that which induces to an agreement, as in a contract or bargain. CONSIDERING, a. deliberative; reflective; that considers: PREP. taking into account; making allowance for—as in the sentence, 'It is not possible to act otherwise, *considering* the weakness of our nature.' CONSIDERINGLY, ad. -lǐ.—SYN. of 'consider': to ponder; meditate; contemplate; muse; reflect; regard; weigh; resolve; study; examine; deliberate; estimate; think; view;—of 'considerate': discreet; thoughtful; prudent; serious; deliberate; careful; reflective.

CONSIDERANCE, n. kǒn-sǐd'ér-ǎns [see CONSIDER]: in *OE.*, consideration; serious reflection. CONSIDERED, a. kǒn-sǐd'ērd, in *OE.*, reflected upon; thought upon carefully; 'considered' is in common use in modern English with the prefixes *well* and *ill*, as a *well-* or *ill-considered* scheme. CONSIDERINGS, n. plu. in *OE.*, considerations; deliberations.

CONSIDÉRANT, kǒng-se-dā-rǒng', VICTOR-PROSPER: 1808, Oct. 12—1893, Dec. 7; b. Salins, dept. of Jura. After being educated at the Polytechnic School of Paris, he entered the army, which, however, he soon left to promulgate the doctrines of Fourier (q.v.). After the death of his master, C. became the head of the Societarians, and undertook the management of *The Phalanx*, a review de-

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voted to the maintenance and spread of their opinions. Having gained the support of a young Englishman, Mr. Young, who advanced the required sum of money, C. established 1832, on a large estate in the department Eure et Loire, a socialist colony or *Phalanstère*; but the experiment failed, and with it *The Phalanx* fell to the ground. However, a new organ of co-operative doctrine, the *Démocratie Pacifique*, was soon established, and was edited by C. who displayed great zeal, perseverance, and ability, in his hopeless battle with the laws of society as now constituted. Among his numerous writings, the chief is the *Destinée Sociale*, dedicated to Louis Philippe. In 1849, C. was accused of high treason, and compelled to escape into Belgium, whence he emigrated to Texas, returned to Brussels, and again went to Texas, where he founded a Societarian community, *La Réunion*, which flourished for a time, but has since come to nothing. C. returned to France in 1869. See COMMUNISM.

CONSIDERATION, in Law: the thing given, or done, or the forbearing or suffering something, as recompense to another, for doing, giving, forbearing, or suffering. An obligation incurred without C. is termed voluntary. C. is of the essence of a contract. It is *express* when stated in words, orally, or written in the contract; and *implied* where it is enforced by law without requiring that it should have been stated; *valuable* when the benefit conferred on the promisor or the detriment sustained through its existence by the promisee is of a property nature and capable of being estimated; *equitable* or *moral* when it involves only the performance by free will of an obligation which was once enforceable, but is so no longer; *good* where neither value nor obligation underlies the inducement to the transaction, as when it is founded on kinship or on natural affection; *illegal* when it involves the doing of something prohibited by law; and *impossible* when it cannot by reason of its inherent difficulty be performed. In time of fulfilment, a C. is *executed* when performed before the promise founded upon it is made, and in practice is not sufficient to support such promise unless it was the outgrowth of a previous request; *executory* when it is to be performed in the future; and *concurrent* when it and the promise based upon it are simultaneous. In general practice, the most common form of C. is the good or the valuable; while the executory and concurrent are regarded as sufficient to support all agreements that are not otherwise affected.

CONSIGN, v. *kōn-sîn'* [F. *consigner*—from L. *consignāre*, to put one's seal to—from *con*, together; *signum*, a seal or stamp: It *consignare*]: *literally*, to send or transfer to another under one's seal; to send, transfer, or deliver into the hands of another with a right to it; to commit or intrust to; to intrust goods to another for sale; to deliver or transfer with the sense of fixedness, as a body to the grave, or a narrative to writing; in *OE.*, to acquiesce in; to submit to. CONSIGN'-ING, imp. CONSIGNED', pp. *-sīnd'*: ADJ. transferred to

another, with a right of property; intrusted to. **CONSIGNATION**, n. *kõn'si-nā'shūn*, the act of consigning or delivering up to another. **CONSIGN'ER**, n. one who. **CONSIGN'MENT**, in *mercantile law*, the act of sending or committing for safe keeping or management, or for other specified purpose; goods so sent. **CONSIGNEE**, n. *kõn'si-nē'*, the person to whom goods are intrusted or sent for sale; a factor. **CONSIGNOR**, n. *kõn-sī'nēr* or *kõn'si-nõr'*, he who consigns goods to others for sale, etc.—**SYN.** of 'consign': to commit; intrust; confide; deliver; resign; give; transfer; assign; appropriate; submit; surrender.

CONSILIENCE, n. *kõn-sil'ĩ-ěns* [as if from L. *consiliens*—from *con*, together; *salĩō*, I leap]: the act of leaping together; concurrence; coincidence; the act of arriving at a similar conclusion by independent trains of thought. **CONSIL'IENT**, a. *-ĩ-ěnt*, leaping together; concurring.

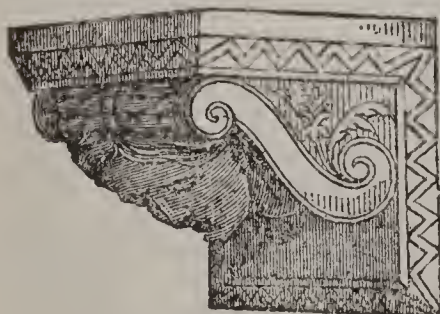
CONSIST, v. *kõn-sist'* [F. *consister*, to consist of—from L. *consis'tērē*, to make to stand, to consist of—from *con*, *sistērē*, to cause to stand: It. *consistere*—*lit.*, to make to stand together, to agree]: to be composed of; to be made up of; to be contained; to stand or be in. **CONSIST'ING**, imp. **CONSIST'ED**, pp. **CONSIS'TENT**, a. uniform; not contradictory or opposed; agreeing. **CONSIS'TENTLY**, ad. *-lĩ*. **CONSIS'TENCE**, n. *-sĩs'těns*, or **CONSIS'TENCY**, n. *-těn-sĩ*, degree of density or firmness of a body; agreement or harmony in all parts; conduct in harmony with profession. **TO CONSIST WITH**, to agree; to be in accordance with. **CONSIST OF**, to be composed or made up of.—**SYN.** of 'consistent': compatible; consonant; accordant; firm; hard; solid: harmonious; congruous; uniform.

CONSISTORY, n. *kõn-sĩs'tēr-ĩ* [F. *consistoire*, a consistory—from mid. L. *consistorium* (see **CONSIST**)]: a spiritual court.—Consistory means properly, a place of assembly; but in the later Latinity the word came to signify the particular place where the privy council or cabinet of the Roman emperor met; and after the time of Diocletian and Constantine, the council itself. The assessors of this council were partly the ordinary members (*comites consistoriani*) such as the imperial chancellor and seneschal, partly extraordinary; and their duty was to deliberate on all important affairs of legislation, administration, and justice. The *form* of the imperial C. passed over into the early Christian Church. The bishops established their consistories; and the highest ecclesiastical court, composed only of cardinals (the College of Cardinals), which meets in the Vatican, under the presidency of the pope, to determine all such matters as the appointment of cardinals, archbishops; bishops, etc., still bears this name, as do also the private councils which the pope can call at his pleasure. The Prot. Church of Germany was induced to perpetuate the consistorial courts principally because the episcopal authority passed into the hands of territorial princes (Ger. *Landesfürsten*) not familiar with ecclesiastical affairs. The first Lutheran C. was established at Wittenberg 1542. After 1555, when the peace of Augsburg secured the re-

cognition of the Prot. religion, similar consistories were gradually formed in other places. The Lutheran consistories exercise a supervision and discipline over religion and education, over the clergy and the schoolmasters, and examine the theological candidates on their trials for license and ordination. They have the regulation of divine worship, the administration of church property, and at an earlier period, possessed a certain jurisdiction in regard to marriage.—In the French Prot. churches, the C. possesses a more restricted jurisdiction than in Germany. It exercises authority over a *circonscription*, i.e., a division of the church containing 6,000 souls, and is composed of all the pastors of the *circonscription*, together with from 6 to 12 lay-elders elected by a certain number of the people. In that portion of the French Prot. Church which has adopted the Augsburg Confession, the authority of the French civil government is more recognized than in the Reformed Church, for it has a *consistoire général*, composed of delegates, lay and clerical, of the various *circonscriptions*, the pres. of which is a layman nominated by the emperor or by the government.—In England, the word is used to denote the court Christian or spiritual court. Every archbishop and bishop has a consistorial court, held either in his cathedral or other convenient place, before his chancellor or commissary, for ecclesiastical causes. In Scotland, the consistorial courts have lapsed into the commissary courts: see COMMISSARY. In the United States, in the 'Reformed' (Dutch or German Presb.) denominations, the consistory is the board or body of the officials in each local church, corresponding to *session* in the churches termed 'Presbyterian.' CON'SISTO'RIAL, a. -tō'rĭ-āl, pertaining to. CON'SISTO'RIAN, a -tō'rĭ-ān, relating to an order of Presb. assemblies.

CONSOLA'TO DEL MA'RÉ: see MERCANTILE LAW.

CONSOLE, v. kŏn-sŏl' [F. *consoler*—from L. *consŏlārĭ*, to comfort greatly—from *con*, *solārĭ*, to comfort: It. *consolare*]: to comfort; to cheer the mind in distress or depression; to soothe. CONSO'LING, imp.: ADJ. adapted to console or comfort. CONSOLED', pp. -sŏld'. CONSO'LER, n. -lēr, one who. CONSO'LABLE, a. -lā-bl [F.—L]: that may be comforted. CON'SOLA'TION, n. -lā'shŭn [F.—L]: the act of comforting, cheering, or soothing the mind; that which comforts; the cause of comfort; refreshment of mind or spirits. CONSOL'ATORY, a. -sŏl'ā-tēr-ĭ, tending to soothe or impart comfort.—SYN. of 'console': to cheer; animate; encourage; enliven; exhilarate; comfort; solace; soothe; sustain; support;—of 'consolation': comfort; solace; alleviation.



Console.

CONSOLE, n. kŏn'sŏl [F. *console*, a bracket, a console: comp. L. *con*, *solĭdus*, solid]: in

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arch., a projection resembling a bracket, frequently in the form of the letter S, used to support cornices, or for placing busts, vases, or figures on. Consoles were often richly ornamented in the under part. The illustration, from Parker's *Glossary*, which is from the palace of Diocletian at Spalatro, belongs to the debased Roman style, and exhibits the zigzag or chevron decoration, which passed from that style into the Romanic architecture of the continent, and into the Saxon and Norman of England: see BRACKET: CANTILEVER. C. is the name applied also to an ornament, as on the keystone of an arch: also to a small fancy side-table.

CONSOLIDATE, v. *kõn-sõl'î-dāt* [L. *consolidātus*, made very solid—from *con*, *solidus*, solid: It. *consolidare*: F. *consolider*]: to form into a solid and compact mass; to make dense and firm; to unite or combine into one; to bring together separate parts, as of a broken bone; to grow firm and hard. CONSOL'IDA'TING, imp. CONSOL'IDA'TED, pp.: ADJ. united or combined into one. CONSOL'IDA'TION, n. -*dā'shùn* [F.—L.]: the act of making firm or solid; the act of uniting two or more parts or things into one. CONSOL'IDANT, n. -*dānt*, a medicine that unites the parts of wounded flesh and heals: ADJ. having the quality of uniting wounds or forming new flesh. CONSOL'IDA'TIVE, a. -*dā'tiv*, having the quality of healing or rendering compact. CONSOLIDATED FUND, the public money, consisting of the produce of the customs, excise, stamps, and other taxes, and constituting almost the whole public income of the United Kingdom, which is pledged for the payment of the interest of the national debt.—SYN. of 'consolidate': to combine; unite; condense; compress; harden; compact.

CONSOLIDA'TION ACTS: acts in the Brit. parliament, combining into one act, the provisions in various acts having reference to one kind of undertaking.

CONSOLS, n. plu. *kõn'sõlz* or *kõn-sõlz'* [contr. from *consolidate*]: consolidated annuities, being most of the large sums of money borrowed by the British nation at various times on different rates of interest, *consolidated* or brought together into one scheme, bearing the same rate of interest, 3 per cent., for which an act was passed in 1757. In the act an average was struck of the value of the different stocks, and the consolidated fund is kept on account in the Bank of England. The total public debts of the nation are called *stocks*: see DEBT, NATIONAL.

CONSOMMÉ, n. *kõng'sòm-mā'* [F. *gravy*, soup]: a strong broth made from different kinds of meat, used as a soup or a sauce.

CON'SONANCE, in Music: combinations of sounds, whose vibrations when heard together so satisfy the ear that no other sound is wished for, or expected to follow. The more or less satisfying effect of C. depends on the greater or less simplicity of the interval formed by the combined sounds. Intervals whose relative vibrations can be expressed by numbers from 1 to 6, are considered consonant; while those which can be expressed only by the higher numbers, not a duplication of the lower, as 7,

9, 11, 13, etc., are called dissonant. Sounds vibrating as 1 : 1, are unison; as 1 : 2, produce the octave; as 2 : 3, the fifth, which inverted becomes 3 : 4, the fourth; as 4 : 5, the major third, which inverted becomes 5 : 8, the minor sixth; and 5 : 6, the minor third, which inverted becomes 6 : 10, or 3 : 5, the major sixth. Consonant intervals are therefore the third, fourth, fifth, sixth, and octave; from which it follows that there is only one consonant fundamental chord in music, viz., the common chord, or *trias harmonica perfecta*, being a base note with its third, fifth, and octave, which inverted produces the chords of the 6th and the $\frac{5}{4}$: see CHORD. The ancient Greeks admitted of still fewer consonances in their system of music, as they treated the third and sixth as dissonances; a proof that their system of harmony was not the same as ours. Their name for C. was Symphony, and for dissonance, Diaphony. Early in the middle ages, only the octave, fifth, and third were treated as consonances. Franco of Cologne was the first who divided C. into perfect, semi-perfect, and imperfect. In the writings of Marchettus, and of Joannes de Muris, in the first half of the 14th c., is found already the important rule, that two perfect consonances following in similar progression are not allowable. The study of the C. was carried still further in the 16th c. by Zerlino, who ascertained the true mathematical proportions of the major and minor thirds. Notwithstanding this, Palestrina till the end of the same c., and long after him all who wrote in the same style, carefully avoided the use of the third in the final chord, finishing always with the perfect consonances according to Franco. Of late years, the importance of the C. has attracted the attention of many eminent theorists in music, as well as philosophical writers of undoubted judgment, some of whom do not hesitate to consider the interval of the seventh a C., because it differs from other dissonances in not requiring preparation. There cannot be a doubt that the chord of the seventh, C, E, G, and B flat, considered individually, and not in connection with other chords, is as euphonious and satisfying as the common chord; and when these intervals are placed at the distance from the fundamental note at which they harmonically arise, the consonant nature of the combination is still more obvious. A scientific organ-builder in Scotland has long been in the practice of introducing the seventh as an interval in his mixture stops, forming with the fundamental stops a union of sound decidedly consonant, and producing a remarkably brilliant effect. The exact limit of C., or the point where dissonance begins, seems not definitely fixed, if fixed it can be. To define C. to be agreeable sounds, and dissonance to be the reverse, as some do, is clearly absurd, because they both essentially belong to harmony or concord, or as the Germans more properly call it *Die Kunst des Wohlklangs*, in which there can be nothing absolutely discordant.

A perfect C. causes a musical effect known as Tartini's Grave Harmonic, it having been first observed by the eminent violinist of that name. With any two musical notes

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sounded continuously, there may be heard (if the notes are in accord) a third deeper tone, caused by that number of vibrations which is the greatest common measure of the numbers producing the primary notes, and upon this Tartini founded his theory of harmony (now obsolete), by assuming that the grave note is the natural base of the chord producing it. The note thus sounded may be too deep to be appreciated by the uneducated ear, though felt as a succession of beats, and these should not be confounded with the 'beats' resulting from the sound of a discordant interval, a species of jar or flutter known to tuners as the consequence of the *imperfection* of a consonance. The subject is treated at length by Prof. de Morgan in a paper in the Transactions of the Cambridge Philosophical Society.

CONSONANT, a. *kõn'sõ-nànt* [L. *consõnans* or *consõnan'tem*, sounding together or at the same time, also a consonant—from *con*, *sõnõ*, I sound: It. *consonante*: F. *consonnant*]: agreeing; according; consisting; suitable: N. a letter which cannot be sounded, or but imperfectly, without the aid of a vowel: see LETTERS. CON'SONANTLY, ad. *lĩ*. CON'SONANCE, n. *-nũns*, and CON'SONANCY, n. *-nũn-sĩ*, accord or agreement in sounds; agreement; consistency. CON'SONANTS, n. plu. the letters of the alphabet which cannot be sounded, or but imperfectly, without the aid of the letters a, e, i, o, u, sometimes w, y, called vowels. CON'SONOUS, a. *-nũs*, agreeing in sound. CON'SONAN'TAL, a. *-nũn'tũl*, pertaining to a consonant; having the nature of consonants. CONSONIFICA'TION, n. *-nĩ-fĩ-kũ'shũn* [L. *faciõ*, I make]: the act of changing a vowel into a consonant, as the L. *i* into the F. and Eng. *j*.—SYN. of 'consonancy': agreement; harmony; accord; consistency; unison; congruity; agreeableness; suitableness;—of 'consonant, a.': consistent; compatible; accordant.

CONSORT, n. *kõn'sõrt* [F. *consort*, an associate, a partner—from L. *consortem*, having an equal share with another, a partner—from *con*, *sors*, lot, condition: It. *consorte*]: a companion or partner; a wife or husband—applied to those in exalted station; union; one ship keeping company with another: V. *kõn sõrt'*, to associate; to keep company with. CONSORT'ING, imp. CONSORT'ED, pp. CON'SORTSHIP, n. state of union; fellowship.

CON'SORT, in English Constitutional Law: the husband or wife of the reigning sovereign, viewed not in a private but in a public capacity, as participating to a certain limited extent in the prerogatives of sovereignty. The extent of these prerogatives in the case of a queen-C. are stated by Blackstone. She is, he says, a public person, exempt and distinct from the king, and 'not, like other married women, so closely connected, as to have lost all legal or separate existence so long as the marriage continues.' For this, Sir Edward Coke gives the curious reason, that 'the wisdom of the common law would not have the king (whose continual care and study is for the public, and *circa ardua regni*) to be troubled and disquieted on account of his wife's domestic affairs.' In addition to this peculiarity in her

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domestic position, the queen-C. enjoys several exemptions and minute prerogatives. She pays no toll, and is not liable to amercement in any court. But where no such exemption is expressly recognized by law in favor of the royal C., she is on a footing of equality with other subjects, and the privileges which the title conveys are chiefly those of precedence, and belong to court etiquette. Until 1857, the husband of Queen Victoria possessed no distinctive English title, and no place in court ceremonial except such as was conceded to him by courtesy. In that year, the title of Prince C. was conferred upon him by letters-patent.

CONSPICUITY, n. *kõn'spěk-tũ'ĩ-tĩ* [L. *conspēctus*, a sight, a view]: in *CE.*, sight; the organ of sight; the eye.

CONSPICUUS, n. *kõn-spěk'tūs* [L.]: a general sketch or outline of a subject; an abstract; a synopsis; a prospectus.

CONSPICUOUS, a. *kõn-spěk'ũ-ũs* [L. *conspicũũs*, that is or comes in view, visible—from *con*, *spēcĩō*, I see: It. *conspicuo*]: easy to be seen by the eye; obvious to the mind; prominent; eminent; distinguished. **CONSPICUOUSLY**, ad. *-ũ-ũs-lĩ*. **CONSPICUOUSNESS**, n. openness to view; extensively known and distinguished.—**SYN.** of 'conspicuous': famous; illustrious; prominent; celebrated; eminent; distinguished; manifest; apparent; clear; visible; plain; obvious; evident.

CONSPIRACY.

CONSPIRACY: combination of two or more persons for accomplishment of some unlawful purpose, or of a lawful purpose by unlawful means. The offense is complete at the moment when the unlawful combination is formed; and the conspirators may be prosecuted and convicted of crime even though they take no further step.

In the United States, under the federal laws, C. means a concerting of two or more persons to perform certain enumerated acts hostile to the authority of the federal govt., in contempt of its courts and its officials, in fraud of its treasury, etc.; also, to cast away any vessel with intent to defraud underwriters.

Between the several states of the Union, the laws regarding C. differ very widely. In N. C., it is C. for two or more persons to combine to intoxicate an individual for the purpose of cheating him at cards; in S. C., to combine to injure a person because of political opinions; in Ill., to agree to obtain goods under false pretenses; in Md., to combine to defraud a third person by means of an act that would not amount to an indictable cheat were it to be done by an individual. In Penn., C. is not matter for criminal prosecution unless some act be done to effectuate the purpose of the conspirators. In all the states, besides the provision made for the criminal prosecution of those guilty of C., the laws provide a civil remedy also—to wit, an action for damages on account of the injury done to the victim of the unlawful confederacy.

A very important aspect of the law of C. in recent times is its relation to the frequent contentions between workmen and employers. In this respect, the ancient rigor of the common law and of the statutes has been much relaxed, and the tendency still is toward a thorough revision of existing codes and bodies of law, in favor more particularly of the workmen. Yet it is still the law of Mass. that a combination of workmen to raise their wages, and to enforce by overt acts a schedule of prices of labor, is a criminal C. N. Y. and Penn. were the first among the states to redress by law the grievances of the workmen. In N. Y., by the act of 1870, labor-unions are declared lawful, as is also any peaceful combination in a trade or calling to increase or maintain a scale of wages; but if workmen combine to raise their wages by conspiring to compel other workmen to conform to rules established by the conspirators for the purpose of regulating the price of labor, they are indictable for C. The Penn. act of 1872 in like manner declares trades-unions lawful; it provides that laborers, etc., as individuals or as members of a society, may lawfully refuse to work for any employer when, in their opinion, the wages are insufficient, or the treatment of such workmen by their employers is brutal or offensive, or when the continued labor of such workmen would be 'contrary to the rules, regulations, or by-laws of any club,' etc., to which the workmen may belong.

The decisions of Judges Ricks and Taft, in the cases of seven locomotive engineers of the Lake Shore r.r. and of Peter M. Arthur, grand chief of the Brotherhood of Locq-

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motive Engineers, rendered in the circuit court of the United States for the n. dist. of O., 1893, Apr. 3, have an important bearing on the law of C. Judge Ricks held that 'an act when done by an individual in the exercise of a right may be lawful, but when done by a number, conspiring to injure or improperly influence another'—as by railroad employees to injure a company against which a boycott has been declared—'may be unlawful. One or more employees,' Judge Ricks continues, 'may lawfully quit their employer's service at will, but a combination of a number of them to do so for the purpose of injuring the public and oppressing employers by unjustly subjecting them to the power of the confederates for extortion or for mischief is criminal.' Judge Taft's decision made perpetual an injunction restraining Chief Arthur from compelling the members of the Brotherhood of Locomotive Engineers to obey rule 12 of the Brotherhood's constitution, which under certain conditions requires the members employed on one railroad line to refuse to 'handle the property' belonging to another line against which the Brotherhood has a grievance. The existence and enforcement of this rule is declared by Judge Taft 'a criminal conspiracy against the laws of the country.' About the same time U. S. Judge Billings at New Orleans issued an injunction against the longshoremen and other unions of common laborers in that city, forbidding their combination to prevent the despatch of freight by rail or steamboat by refraining from work and by using moral or physical force to hinder their fellow-unionists or non-unionists who might be willing to work. See **BOYCOTTING: TRADE-UNIONS.**

CONSPIRACY BILL: bill introduced into parliament by Lord Palmerston, in consequence of an attempt to assassinate the Emperor and Empress of the French while going to the opera on the evening of 1858, Jan. 14, by the Italian refugee Orsini and others, by means of explosive shells partly manufactured in England. The bill declared conspiracy to murder, which the law of England had hitherto treated as a misdemeanor, to be a felony, punishable with penal servitude, and applying that provision to all persons whether English or foreign, and to all conspiracies to murder wherever intended. In place of being regarded merely as a piece of law reform, the C. B. obtained a political character partly from a dispatch from the French minister, Count Walewski, demanding some such change in British law, and partly from expressions in certain addresses which were presented to the emperor by the French army, and published in the government organ, the *Moniteur*, which were regarded as insulting to England. The ministry were accused of truckling to France; and though on the motion for leave to bring in the bill they had a majority of 200 (299 against 99), an amendment by Mr. M. Gibson on the second reading, virtually amounting to a vote of censure, was carried by a majority of 19 against them (234 to 215).

CONSPIRE—CONSTABLE.

CONSPIRE, v. *kõn-spīr'* [F. *conspirer*—from L. *conspī-rārē*, to blow together—from *con*, *spīrārē*, to breathe: It. *conspirare*]: to band together to commit crime; to plot; to hatch treason; to combine for an unlawful purpose; to concur to one end. **CONSPIRING**, imp. **CONSPIRED'**, pp. *-spīrd'*. **CONSPIRACY**, n. *-spīr'ā-sī*, a combination of two or more persons for an unlawful or evil purpose; an unlawful confederacy to prejudice a third person; a plot. **CONSPIRATOR**, n. *-tēr*, one who engages in a conspiracy. **CONSPIRINGLY**, ad. *-spī'ring-lī*. **CONSPIRANT**, a. *kõn spī'rānt*, in *OE.*, engaged in a conspiracy or plot.—**SYN.** of 'conspiracy': plot; cabal; combination; faction;—of 'conspire': to concur; combine; unite; league; confederate; plan; agree.

CONSTABLE, n. *kũn'stā-bl* [OF. *conestable*; It. *conestabile*, a constable—from mid. L. *conestābŭlus*, the commander of the forces—from L. *comēs-stabŭlī*, the attendant or count of the stable—hence master of the horse, whose duty it was to preserve public order, and in 13th c. the commander of the forces; though Coke, Selden, and others, make the derivation from *koning-stapel*, staff and stay of the king]: anciently in Britain, a high officer of the crown called the *Lord High Constable*; in modern times, a peace-officer; a policeman, generally one who carries arms. **CONSTABLESHIP**, n. **CONSTABLERY**, n. *kũn'stā blēr'ī*, the body or jurisdiction of constables. **CONSTABLEWICK**, n. *-wīk*, the district to which a constable is limited. **CONSTABULARY**, a. *-stāb'ŭ-lēr-ī*, pertaining to or consisting of constables: N. the body of constables in a district. **HIGH CONSTABLES**, a standing body of citizens invested with special powers for preserving order. **SPECIAL CONSTABLES**, a body of citizens appointed to act on special emergencies. **OUTRUN THE CONSTABLE**, to get into debt without the means of payment. **WHO'S TO PAY THE CONSTABLE**, who is to pay the score—both in allusion to a constable arresting debtors.

CON'STABLE: anciently in France and in England, a military personage of the very highest rank. The C. of France rose gradually in importance from the comparatively modest position of an officer of the household, till at last he became, *ex officio*, the commander-in-chief of the army in the absence of the monarch, the highest judge in military offenses and in all questions of chivalry and honor, and the supreme regulator and arbitrator in all matters connected with tilts, tournaments, and all martial displays. The office of C. is traced back by Anselme to Alberic, who held it in 1060; but the first C. of France who appeared at the head of an army was Mathew, the second Seigneur de Montmorency. The office was suppressed by Louis XIII. 1626. Among the offices of the ancient monarchy which were restored by Napoleon for mere purposes of state, that of C. was one. His brother, Prince Louis Napoleon, afterward king of Holland, was created Grand C., the Vice-C. being Marshal Berthier. The office was again abolished on the restoration of the

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Bourbons, and has not been re-established. But beside the C. of France, almost all the great vassals of the crown had constables who filled analogous offices at their minor courts. There were constables of Burgundy, of Champagne, and of Normandy; the latter of whom may be regarded as the progenitor of the C. of England.

Shortly after the Conquest, a Lord High C. of England appears, with powers and privileges closely corresponding to those of the C. of France (13 Rich. II. st. 1. c. 2). For his position as judge of the court of chivalry, in conjunction with the Earl Mareschal, and the limitation of his power, which followed on the statute 13 Rich. II. c. 2, see CHIVALRY, COURT OF. The office was abolished by Henry VIII. on the attainder of Edward Stafford, Duke of Buckingham; and a Lord High C. is now appointed only on the occurrence of great state ceremonies, e. g., a coronation. The High C. of Scotland was an officer very similar to the C. of France and England. After the Rebellion, the offices of the inferior constables in Scotland dependent on the High C., such as the C. of the Castle (q.v.), were abolished, but that of the High C. himself was expressly exempted, and still exists in the noble family of Errol. The privileges attaching to this office are now entirely honorary; but in virtue of it, the Earl of Errol is said to be the first subject in Scotland after the blood-royal; and on the occasion of the visit of King George IV. to Edinburgh, the then earl was allowed to take precedence of the possessors of all other hereditary honors. The present Earl of Errol is the 22d High C. of Scotland.

CONSTABLE OF A CASTLE, in Britain, was the keeper or governor of a castle belonging to the king or to a great baron. These offices were frequently hereditary; thus there were constables or hereditary-keepers of the Tower, and of the castles of Dover, Windsor, etc.—CONSTABLE OF THE HUNDRED, and CONSTABLE OF THE VILL, were the predecessors, the former of the high, and the latter of the petty constables of later times, whose duty is to see to the conservation of the peace. The petty constable has his functions within the limits of the township or parish.—SPECIAL CONSTABLES are persons sworn in by the justices for a limited time or a particular place, to preserve the peace, or to execute warrants on special occasions, a tumult, riot, or felony, when the ordinary officers are judged insufficient. For Brit. county constabulary, see POLICE.

In the United States, the office of high constable has been largely discarded for more than half a century, somewhat similar duties in cities being assigned to a chief of police; though in a few states there is a constable of the commonwealth. Petty constables, or constables, are largely retained, with the duty of making arrests and conserving the public peace.

CONSTABLE, *kün'sta-bl*, ARCHIBALD: 1774, Feb. 24—1827, July 21; b. Fifeshire, Scotland: publisher. He was apprenticed to a bookseller; opened a store of his own in Edinburgh when 19 years old: began publishing the *Scots*

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Magazine and *Farmer's Magazine*, 1801; the *Edinburgh Review* 1802, the *Edinburgh Medical and Surgical Journal* 1803, and Sir Walter Scott's works, with the *Lay of the Last Minstrel*, 1805. He became a bankrupt 1825. He published the *Edinburgh Review*, Scott's works, and those of Dugald Stewart and other leaders in Scottish literature till his failure, in which his friend Walter Scott also was heavily involved. He had purchased and enlarged the *Encyclopædia Britannica*, and had been running *Constable's Miscellany* but a few months when disaster overtook him, caused as much by his generosity as by the business revolution of that year.

CONSTABLE, *kŭn'sta-bl*, JOHN: 1776–1837; b. Suffolk, Eng.; landscape painter. His early predilection for art attracted the interest of Sir Charles Beaumont, who enabled him to enter the Royal Acad. 1799, of which he became an academician 1829. His chief works are *The White Horse*, (1819); *The Corn-Field* (1826); and *The Valley Farm* (1835). His paintings were noted for simplicity and fidelity to nature.

CONSTANCE, *kon'stans* or *kon-stānts'*, or KOSTNITZ (anc. *Constantia*): city of Baden, formerly a free imperial city; on the s. shore of the Lake of Constance, where the Rhine connects the upper and lower lakes. C. is one of the most ancient towns in Germany, but it is much decayed. Its cathedral was erected in the 11th century. C. is notable in history for the ecclesiastical council, 1414–18, whose object was to put an end to the disorders in the popedom and in the election of popes, and to prevent the spread of the doctrines of Huss. There assembled, with the Emperor Sigismund and Pope John XXIII., 26 princes, 140 counts, more than 20 cardinals, 7 patriarchs, 20 archbishops, 91 bishops, 600 prelates and doctors, and about 4,000 priests. The three rival popes, John XXIII., Gregory XII., and Benedict XIII., were deposed, and Martin V. was elected. Huss and Jerome of Prague were condemned and burned. The emperor was disappointed in his hope of a thorough ecclesiastical reform, and the Council of Basel was afterward called to carry on the work which the Council of C. had failed to accomplish. The hall in which the council met is now the market-hall of Constance. C. has manufactures of silk, cotton, and watches, active fisheries, and the cultivation of vineyards and gardens employs many of the people. The decline of the place is shown in the decrease of the pop. from 40,000, to (1885) 14,601 and (1900) 21,445.

CONSTANCE, LAKE (called by the Germans *Bodensee* or *Bodmansee*, from the old castle of Bodman—the *Lacus Brigantinus* of the Romans): on the n. side of the Alps of Switzerland, at a meeting-point of the five territories—Baden, Württemberg, Bavaria, the Tyrol, and Switzerland. It has an elevation variously estimated at 1,250–1,385 ft. above the sea. Lake C. is traversed by the Rhine from e. to w.; its greatest length is about 44 m., utmost breadth 9 m., depth 964 ft. It is divided into the upper and lower

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lakes, the latter extending from Constance to Stein. Anciently, the lake was more extensive toward the s. than now. In the 4th c., it is said to have extended as far as Rheineck, now some miles from the shore. The shores are formed by hilly lands, with low tracts at the mouths of the Rhine and smaller rivers. Cornfields, vineyards, pastures, orchards, and wooded declivities, with here and there the ruins of old castles interspersed, surround the lake. The water has a dark-green hue, often rises suddenly 10 or 12 ft. during a thaw, and rolls in high waves during the prevalence of a strong s., n.w., or e. wind. Without visible cause, it sometimes rises and falls to a considerable degree. In one hour, in 1770, it rose between 20 and 24 ft. above the ordinary level. It is seldom frozen, except in very severe winters. The lake contains 60 kinds of aquatic fowl; 25 species of fish, including fine salmon, and salmon-trout; and several species of shell-fish. Since 1824, steam-navigation has added to the facilities of commerce across the lake, and its commercial importance has been greatly increased by the connection of the chief towns on its shores with the railway systems of s. Germany and Switzerland.

CONSTANT, a. *kōn'stānt* [F. *constant*—from L. *constan'tem*, standing firm—from *con*, *stans*, standing: It. *costante*—*lit.*, standing firm]: fixed; unchanged; steadfast; unchangeable, as in mind, purpose, affection, or principle; determined; invariably the same; in *OE.*, consistent; steady: N. that which remains unchanged. CON'STANTLY, ad. *-lī*. CON'STANCY, n. *-stān-sŭ*, fixedness; unshaken determination; lasting affection.—SYN. of 'constant, a.': fixed; permanent; invariable; perpetual; firm; determined; unshaken; resolute; continual; immutable; unalterable; unchanging; steadfast; persevering; steady;—of 'constancy': stability; fixedness; firmness; steadiness; resolution; fidelity, etc.

CON'STANT, in Math. Analysis: a quantity which remains the same for all cases of the problem, in opposition to a variable. Thus, in questions about the fall of bodies in given times, the force of gravity is a constant quantity.—In the integral calculus, the name of constants is given to those quantities which, after integration, are annexed to the integral.

CONSTANT DE REBEQUE, *kōng-stōng' dēh rēh-bēk'*, HENRI BENJAMIN: 1767, Oct. 25—1830, Dec.; b. Lausanne: French political writer and orator. Educated in a German college, he afterward spent some time at Edinburgh Univ., and here he is supposed to have imbibed those ideas of political freedom which guided him through life. In 1796, he published in Paris a pamphlet on the government then existing, which brought him into note; and three years later, he was placed on the 'Tribunat' by Napoleon, who, however, two years later, dismissed and banished him for the spirit which he displayed in resisting the First Consul's encroachments on liberty. During his banishment, he travelled for some time with Madame de Staël, and afterward settled in Ger-

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many. In 1813, he published his celebrated pamphlet, *On the Spirit of Conquest and Usurpation*. In 1814, he returned to Paris, where he wrote several pamphlets in favor of constitutional liberty, which he maintained was enjoyed under Louis XVIII. Napoleon's government he described as a 'government of mamelukes,' and the emperor himself as 'a Genghis Khan.' Yet during the Hundred Days he became a counsellor of state, and assisted in framing the *Acte Additionnel*. In 1819, he was elected a deputy, became ultimately leader of the opposition, and in this capacity gained unbounded popularity. C. de R. was a true patriot. He loved liberty better than monarchies or mobs, and therefore, while he opposed the despotic measures of the government of Charles X., he deplored the revolution of 1830, July. As a public speaker, C. de R. was in his day the clearest and most persuasive advocate of constitutional principles in France. As a political writer, he was even more effective than as speaker. Among his works were *Discours Prononcés à la Chambre des Députés* (2 vols. Par. 1828), the *Cours de Politique Constitutionnelle* (4 vols. Par. 1817-20, 2d ed. 1833), in which are collected his minor works on representative government. Among his most ambitious works are *Mémoires sur les Cent Jours* (Par. 1820), *De la Religion considérée dans sa Source, ses Formes, et ses Développements* (5 vols. Par. 1824-31), to which posthumous work his *Du Polythéisme Romain, considéré dans ses Rapports avec la Philosophie Grecque et la Religion Chrétienne*, forms a kind of supplement.

CONSTANTIA, *kōn-stān'she-a*: district of Cape Colony, in s. Africa, on the e. and n.e. slopes of Table Mountain range, abt. 12 m. from Cape Town. C. consists of only two estates, Great Constantia and Little Constantia, long famed for the quality of the wines produced on them. Many attempts have been made in other parts of Cape Colony, as also in France and the south of Europe, to produce a wine similar in quality and flavor to the C., but all have failed; and it is now known that not only to the quality of the C. grape, but also to the character of the soil, as well as to the peculiarly genial exposure of the district, the characteristic excellence of the C. (proper) wines is traceable. The soil of the estates is rich in alkalies to an extent perceptible in the grape itself, and the vineyards have a very equable exposure, being sheltered from all sudden changes of temperature by spurs of the great granite mountain. The grapes under this shelter ripen very uniformly, so that the earthy taste, which spoils the character of other Cape wines, and which is produced by using unpicked grapes of different degrees of ripeness in the same bunch, does not attach to the C. wines.

Although the attempts made on other farms in the colony to produce wine similar to that of C., have failed so far as the peculiar flavor and lusciousness of real C. are concerned, yet they have led of late to great improvements in several of the s. African wines, e.g., the improved 'Pontac,' and other wines of Wynberg. Statistics of the wine trade of this settlement show, however, that only a small quan-

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tity of genuine wine finds its way into the market—much of that which passes under the name being similar but inferior Cape wines. The produce of the C. vineyards sells even in the colony at not less than 6s per bottle.

CONSTANTINA, *kõn-stân-tē'nâ*: town of Spain, in Andalusia, in a mountainous district, about 40 m n.n.e of Seville, to which city it supplies much fruit and ice. It has manufactures of leather and soap, distilleries, flour-mills, etc. Pop. (1877) 10,998.

CONSTANTINE, *kõn-stân-tên'*: capital of province of same name (eastern prov. of Algeria: area 73,929 sq. m.; pop. 1,990,992); on a hill with flat summit, three sides of which are washed by the Rummel flowing through a deep and narrow ravine, and the fourth side is connected by a natural mound with the surrounding mountains. Lat. 36° 22' n., long. 6° 37' e. It is 830 ft. above the river, and 2,162 ft. above the sea. It is surrounded by walls constructed by the Arabs out of Roman sculptured stones, and a fine old Roman bridge spans the ravine on one side. The streets, as in the other towns of Barbary, are very narrow and dirty, and the houses mean. An old church in the Byzantine style is included in the citadel. C. was anciently one of the most important towns of Numidia, called *Curta* by the Carthaginians, *Cirta* by the Romans, and was long a royal residence. It was destroyed in the wars of Maxentius against Alexander about A.D. 311, but was soon rebuilt by Constantine the Great, from whom it derives its present name. It was a flourishing town in the 12th century. Subsequently, it shared in general the fortunes of Algeria (q.v.). C. has manufactures of woolen cloths, saddlery, and other articles of leather. Pop. (1886) 36,536, of whom some 9,789 are French, and 5,780 Jews; (1901) 41,138.

CONSTANTINE I., *kõn'stan-tîn*, FLAVIUS VALERIUS AURELIUS, surnamed 'the Great,' Roman Emperor: 272 (or 274)—337, July 22; b. Naissus, in Mœsia; eldest son of Constantius Chlorus. He distinguished himself by his military talents first under Diocletian, in that monarch's famous Egyptian expedition 296; subsequently he served under Galerius in the Persian war. In 305, the two emperors, Diocletian and Maximian, abdicated, and were succeeded by Constantius Chlorus and Galerius. Galerius, who could not endure the brilliant and energetic genius of C., took every means of exposing him to danger, and it is believed that this was the period when he acquired that mixture of reserve, cunning, and wisdom, conspicuous in his after-years. At last C. fled to his father, who ruled in the West, and joined him at Boulogne just as he was setting out on an expedition against the Picts in North Britain. Constantius died at York 306, July 25, having proclaimed his son C. his successor. The latter now wrote a conciliatory letter to Galerius, and requested to be acknowledged as Augustus. Galerius did not dare to quarrel with C., yet he granted him the title of Cæsar only. Political complications now increased, and in a short time no less than six emperors were 'in the field'—viz., Galerius,

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Licinius, and Maximin in the East, and Maximian, Maxentius his son, and Constantine in the West, 308. Maxentius having quarrelled with his father, forced him to flee from Rome; he took refuge with C., but was ungrateful enough to plot the destruction of his benefactor. This being discovered, he fled to Marseille, the inhabitants of which city gave him up to C., who put him to death 309. Maxentius professed great anger at the death of his father, and assembled a large army, with which he threatened Gaul. Crossing the Alps by Mont Cénis, C. thrice defeated Maxentius—first near Turin, then under the walls of Verona, and finally in the vicinity of Rome 312, Oct. 28, Maxentius himself in the last of these engagements being drowned in an attempt to escape across the Tiber. C. now entered Rome, disbanded the Prætorians, and adopted other judicious measures for allaying the public excitement. He was also honored with the title of *Pontifex Maximus*, or Supreme Dignitary of the Pagan Hierarchy.

C. was now sole emperor of the West. Similarly, by the death of Galerius, 311, and of Maximin, 313, Licinius became sole emperor of the East. In 314, a war broke out between the two rulers, in which Licinius had the worst, and was fain to conclude a peace by the cession of Illyricum, Pannonia, and Greece. C. gave Licinius his sister Constantina in marriage, and for the next nine years devoted himself vigorously to the correction of abuses in the administration of the laws, to strengthening the frontiers of his empire, and to chastising the barbarians, who learned to fear and respect his power. In 323, he renewed the war with Licinius, whom he defeated, and ultimately put to death. C. was now at the summit of his ambition, the sole governor of the Roman world. He chose Byzantium for his capital, and in 330 solemnly inaugurated it as the seat of government, under the name of Constantinople, or City of Constantine. In 324, he committed a deed that has thrown a dark shade over his memory. He had a gallant and accomplished son, named Crispus, who was exceedingly popular; and him, with Constantina and others, he put to death on a charge of treason. Niebuhr shows that it was not unlikely that Crispus cherished ambitious designs. Next year occurred the great Council of Nice. C. sided with the orthodox fathers, probably for very heterodox reasons. As yet he was a pagan; but his sense of justice, and his conviction of the growing importance of the Christians, both as a moral and political element in the life of the empire, had from the very first induced him to protect them. As early as 313 he had everywhere granted them toleration, and since then continued to favor them more and more decidedly. As president of the Nicene Council, he opposed the Arians, on political grounds, as the weaker party; but not being theologically interested in the dissensions, he refrained from active persecution. During the latter years of his life, Christianity became the state-religion, the pagan temples were closed, and sacrifices forbidden. Yet it was only a short time before his death that he would allow himself to be baptized.

CONSTANTINE II —CONSTANTINE VII.

The question has been much discussed, whether or not C. was a Christian. The truth seems to be, that he looked upon religion with the eye of a *statesman*, who feels that his first duty is to rule in an orderly and peaceable manner, the nation over which he is set. Had Paganism been still in its prime, and possessed any real political vitality, it is not likely that a man of C.'s secular temperament would have troubled himself in regard to the new faith; but when he found that the latter was making rapid progress in spite of the fiercest persecution, he must have felt it wisest, and probably also conceived it *right*, to protect and favor it. But he continued to the last addicted to many pagan superstitions. As an emperor, however, he ranks very high. He was beloved by his people, for whose welfare he seems to have honestly labored. Severe and even sanguinary toward individuals, he was just and moderate toward nations. He conquered every enemy, organized a new and better mode of government for his vast dominions, crushed all conspiracies and revolts, and passed the close of his life in peace.

CONSTANTINE II., CLAUDIUS FLAVIUS JULIUS: Roman emperor; 312-340; eldest son of C. the Great. He was given administrative authority, 335, over Gaul, Spain, and Britain. On the death of his father, two years later, he inherited the sovereignty of these provinces, with a portion of that of Africa, his brother Constans receiving Italy and the rest of Africa. C. invaded his brother's Italian dominions, 340, and was killed in battle. Constans thus became master of all the Western empire.

CONSTANTINE III., FLAVIS HERACLIUS: Roman emperor of the East: 612-641. He was son of the emperor Heraclius and Eudoxia, and at the death of his father shared the govt. of the empire with his half-brother three months, when it is supposed he was poisoned by his step-mother.

CONSTANTINE IV., POGONATUS: Roman emperor of the East. He was son of Constans II. whom he succeeded A. D. 668; defended Constantinople with Greek fire against an Arabian fleet several years; forced the Arabs to purchase peace by heavy annual tributes; and called the council at Constantinople which condemned the Monothelites A. D. 680.

CONSTANTINE V., COPRONYMOUS: Roman emperor of the East: 719-775; son of Leo III. He succeeded his father A. D. 741; suppressed the insurrection of Artavardes and made himself master of Constantinople; and called the council which condemned the worship of images A. D. 754.

CONSTANTINE VII., PORPHYROGENITUS. Roman Emperor of the East: 905-959; b. Constantinople; son of the emperor Leo VI. He was an accomplished and well-meaning prince, but lacking force. On the death of his father, 911, the government was usurped by Romanus Lecapenus, who ruled as emperor till 944, when C. was placed in possession of his rights by popular favor. His virtues endeared him to his people, and he left a number

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of literary and scientific works, among them a description of the provinces of the empire, a life of the emperor Basil of Macedonia, a treatise on the government of the empire, and another on the ceremonies of the Byzantine court.

CONSTANTINE XIII., PALÆOLOGUS, last Emperor of the East; 1394–1453; b. Constantinople. He succeeded his brother, John Palæologus VII., 1448. Threatened by the sultan Mahomet II., he vainly endeavored to obtain aid from Christian Europe. The Turks besieged Constantinople, 1453, with between 250,000 and 300,000 men. A gallant defense was made for 53 days, but the city was taken by storm, May 29, and C. fell in the battle, after showing a heroism which elicited the admiration of the conquerors.

CONSTANTINE, NICOLAEWITCH, Grand-Duke of Russia: 1827, Sep. 21—1892, Jan. 25: second son of the emperor Nicholas I. and bro. of the emperor Alexander II., and uncle of Alexander III. During the reign of Alexander II., and till 1881, he was grand admiral of the Russian fleet, and held many other high offices and dignities in the army and in the state. During the Crimean war, he commanded the Russian fleet in the Baltic, and directed the defensive preparations which held the English and French armaments in check before Cronstadt. The leader of the old Russian party, he strenuously opposed the concessions made to the western powers. In 1857, however, he visited the courts of England and France, and in 1871 he paid a second visit to England; the year following he visited the U. S. On the outbreak of the Polish insurrection in 1862, C. held the office of viceroy of Poland for three months. In 1865, Jan., he was appointed president of the council of the empire. He was dismissed from his dignities 1881, on suspicion of intriguing with the revolutionary party, and he and his son Nicholas were placed under arrest. He was suddenly afflicted with loss of his reason 1890, while attending the army manœuvres.

CONSTANTINE, PAULOVITCH, Grand-Duke of Russia; 1779, May 8—1831, June 27; second son of Emperor Paul I. He early showed activity, intellectual ability, and a bravery bordering on foolhardiness, of which he gave remarkable proof at the battle of Austerlitz. After the congress of Vienna, the government of Poland was intrusted to him by his brother, Emperor Alexander. In 1822, Jan., he executed a private deed, by which he resigned his claims to the throne in the event of Alexander's death; and when that event took place, 1825, he adhered to this resignation, though he had meanwhile in his absence been proclaimed emperor in St. Petersburg. The succession thus fell to his younger brother Nicholas. The character of C.'s administration in Poland was not such as to conciliate any class of the people, and a widely ramified conspiracy was formed. The French revolution of 1830 supplied the spark which set all in flame, and C. was compelled to flee for his life, but he returned in command of the army of reserve. He died, however, of cholera at Vitebsk.

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CONSTANTINOPLE, *kön-stän-tĩ-nō'-pl*, called by the Turks *Stamboul* or *Istamboul*, originally called *Byzantium* (q.v.): city, cap. of the Turkish empire. In 330, Emperor Constantine (q.v.) made it the cap. of the Roman empire, and called it, after his own name, Constantinople. From this period dates its importance. It was thenceforth the residence of the Roman, and afterward of the Byzantine emperors, till in 1453 it was taken by the Turks. Since that time, it has been the cap. of Turkey and the principal residence of the sultans. It is in lat. 41° n., and long. $28^{\circ} 59'$ e., on the European side of the Channel of Constantinople, or Thracian Bosphorus, near its opening into the Sea of Marmora. A narrow arm of the sea, called the Golden Horn, extends about five m. into the land, and forms a safe and most commodious harbor, with water of sufficient depth to float the largest men of war. C. proper, to which Europeans give the name of Stamboul, to distinguish it from the n. and e. suburbs of C., lies entirely on the s. side of the Golden Horn, and is protected by a wall, built during the time of the Byzantine empire, and partially restored by the Turks. The wall is about $12\frac{1}{2}$ m. in circuit, and is pierced by 28 gates, among which that of Top-Kapussi, formerly that of St. Romanus, has historic interest, as being the one through which the Turks entered when they stormed the city, and where the last of the Palæologi died in the fight. The suburbs of Galata, Pera; and Top-hanêh are on the n. side of the Golden Horn. On the Asiatic side of the Bosphorus lie Scutari and Kadiköi (the ancient Chalcedon), and to the n. w. of the city lies the town of Eyub. The city itself is built on hilly ground, and from this circumstance, and its numerous gardens, cypresses, mosques, palaces, minarets, and towers, it presents, especially as seen from the side of the Golden Horn a very splendid appearance. The scenery of the Thracian Bosphorus is of almost unrivalled beauty; and the panorama, of which C. forms the principal part, is such as is perhaps nowhere else to be seen in the world. But a nearer approach reveals the characteristics of an Oriental town—narrow, crooked, filthy streets, and miserable houses of wood and clay. Since the Crimean war, however, C. has been wonderfully improved. Great fires—1865, Sept. 6, 7, and 1866, May 3, and 1870, June 5—swept away square miles of old wooden houses on both sides of the Golden Horn. On these spaces, handsome stone houses have been built in the modern European style; but this has not been done with much system, and there are in all directions great gaps, filled with miserable wooden huts or left as waste places. The formation of tramways has, however, tended to connect the improved districts by wider thoroughfares, and to form a general plan, which is gradually giving to C. the appearance of a European city. C. contains many fine buildings, among which are the Seraglio, occupying the position of ancient Byzantium, and measuring about three m. in circumference. The former church of St. Sophia, now a mosque, is a most magnificent structure, in the form of a Greek cross, 269 ft. long, by

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243 broad, and has a flattened dome, greatly admired for its lightness, 180 ft. above the ground. The other important mosques are those of Solyman, Achmed, Sultan Mohammed II., and Eyub. The two obelisks of the ancient hippodrome, called by the Turks the *Atmeidan*; the Castle of the Seven Towers, now in a state of dilapidation; the aqueducts erected by the Emperor Valens; the cistern of Philoxenus, with 424 columns of marble; and the numerous fountains, are among notable objects in C. The covered bazaars of C. are very numerous, and the goods are displayed with wonderful attractiveness. One feature of C. is its vast number of lean and hungry dogs which haunt the streets. The dogs are the common property of the city, and they do a considerable portion of the scavenging. Galata, founded by the Genoese as a republic, in the Byzantine times, is the residence of European merchants and the principal place of trade. It contains many great warehouses, shops, and dwelling-houses, but is, if possible, even more filthy than C. proper. Bridges of boats connect the opposite sides of the Golden Horn. Further on the Bosphorus lies Top-hanêh, with the imperial cannon-foundry, a beautiful mosque, and an interesting fountain. On the hill behind Galata and Top-hanêh is situated Pera, the residence of the foreign ambassadors. Two-thirds of Pera were burned to the ground by the fire of 1870, June 5, when 3,000 houses were destroyed, including that of the English ambassador, and 40,000 persons were left without shelter. Before the fire, Pera had a European population of 70,000, reduced by the catastrophe to more than one-half. Pera is not being rebuilt on its old site, but new streets are spreading around it and Galata. In 1875, Pera was connected with C. by an underground railway, 672 yards long, which is reckoned to convey 30,000 passengers daily.

The mosques of C. are more than 300 in number. There are several Greek churches, under a patriarch with 12 synodal bishops. The patriarch is not only the spiritual, but in part also the temporal head of the Greek subjects of the Porte. C. is the residence also of an Armenian patriarch, and there are several Rom. Cath. and Prot. churches. There are in connection with the mosques about 300 *medresses*, or schools for the ulemas; there are also some 400 *mekteb*, or Turkish elementary schools; and among the educational institutions is a school of medicine conducted by Germans, which has been the means of much good. Among the benevolent institutions are numerous *imarets*, where food is provided for the poor, and hospitals for the sick of several European nations. There are public libraries, both Turkish and Greek, of which that of the Seraglio is particularly rich in the treasures of oriental literature; and there are several Turkish and European printing-presses. The public baths and coffee-houses are exceedingly numerous. Some of the peculiar manufactures of the East are carried on in leather, carpets, weapons, etc. But all the manufactures of Western Europe abound in its markets. The trade of C. has, since the Crimean war, been steadily increasing, but is far less ex-

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tensive than might be expected from its population and situation. The burden of the vessels entering and of those clearing the port is estimated at about four millions of tons. The trade is chiefly in the hands of Greeks, Italians, Austrians, British, French, and Germans.

The great strategical value of the site of C. has always given it a peculiar military and political importance. Extensive fortifications at some distance on the landward side of C. were undertaken during the Russian war of 1877, and were carried out under the superintendence of an English officer in the Turkish service. These lines extend from Buyuk-Tchekmedgi on the Sea of Marmora to Lake Derkos on the Black Sea, a distance of about 20 m. They run along a range of steep hills, from 200 to 500 ft. in height, looking down on a long and wide bare valley. Eight m. distant across the valley runs the parallel range of the Tchataldja Hills, from 500 to 1500 ft. high.

C. is now connected by railway with the interior of n. Turkey, and the n.w. part of Asia Minor. The Rumelian railway from Stamboul to Bellova, was opened 1873, and will ultimately be connected with the Schumla-Varna line, and with that from Saloniki to Uskub. C. will thus soon have railway communication with a great part of Turkey. —The pop. of C. and its suburbs has been variously estimated. By the *Almanach de Gotha*, 1893, it was said to be 873,565; by the *Statesman's Year-Book*, 1903, it was estimated at 1,125,000.

CONSTANTINOPLE, COUNCILS OF: a long series of ecclesiastical synods, general or provincial, during more than a thousand years, A.D., 336–1451. Of those counted as ecumenical by either the Greek or the Latin Church, there were eight. (1) 381, May–June 30, by order of the emperor Theodosius I.; consisting of 150 bishops, beside the adherents of Macedonius, known as semi-Arians: it legalized the emperor's ejectment of the Arians from the eastern churches, condemned also the Eunomians and Eudoxians, declared the bishop of Constantinople next in rank to the bishop of Rome, and both subordinate only to the emperor; reaffirmed the enactments of the Council of Nice, and added the 'filioque' clause to the confession of faith. (2) 553, May 4–June 2, by order of Justinian I.; consisting of 165 bishops: it sustained Justinian's condemnation of the three distinguished teachers of the Antiochian school, and also condemned Bp. Vigilius of Rome for not having proceeded against them. (3) 680–1, Nov. 7–Sep. 16, known as the sixth ecumenical, consisting of 289 bishops, 3 patriarchs, and 4 Roman legates: it condemned the doctrine of Honorius which held that as there was only one Christ, so he had only one will. (4) 691, by order of Justinian II., to consider matters of discipline—called 'in Trullo,' from the palace in which it was held, and 'quini-sextum' because it was supplementary to the 5th and 6th general councils on discipline: it adopted a very large number of canons. (5) 754, Feb. 10–Aug. 8, consisting of 333 bishops: it prohibited the worship of images, but the decree was revoked 786. (6) 869–70, Oct. 5–Feb. 28, known

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as the eighth general council: it anathematized heretics, opposed the seven general councils, deposed Photius, and restored Ignatius. (7) 879–80, Nov.–Mar. 13, consisting of 380 bishops, and the Roman legates: it took action concerning Photius—whom it recalled,—the Nicene creed, and the general councils. (8) 1341, June 11, called to legislate on doctrinal points: it condemned Barlaam as a heretic for opposing the Mt. Athos monks in their belief in the possibility of attaining an intuition of divine light and essence by a cessation of corporal life, while yet in the body. Of the above, the 4th, 5th, and 8th are recognized by only the Greek Church as ecumenical.

CONSTELLATION, n. *kōn'stěl-lā'shŭn* [F. *constellation*, from L. *constellātiōnem*, a group of stars—from *con*, *stella*, a star]: cluster or group of stars called by a particular name; assemblage of beauties or excellencies.—The stars which stud the firmament have, from a time earlier than authentic records can trace, been formed into artificial groups which have received names borrowed from fancy or fable. These groups are called constellations. Though quite devoid of anything like systematic arrangement, this traditional grouping is found a sufficiently convenient classification, and still remains among astronomers the basis of nomenclature for the stars. Before the invention of almanacs, the risings and settings of the constellations were looked to by husbandmen, shepherds, and seafaring men as the great landmarks of the seasons, and consequently of the weather which each season was expected to bring with it (see Job xxxviii. 31); and it is not surprising if the storms or calm weather that usually accompanied such seasons were connected in the popular imagination with the influence of the stars themselves, or the beings with whom superstition or fable identified them. Thus, the risings and settings of Bootes with the bright star Arcturus, near the time of the equinoxes, portended great tempests: see Virgil's *Georgics*, i. 204. The great heat in July was ascribed to the rising of Canis the Dog, with its bright star Sirius: see CANICULAR DAYS, and HELIACAL RISING. The appearance of the twins, Castor and Pollux, was hailed as the harbinger of fair summer weather.

Almost all nations have, from early times, arranged the stars into constellations; but it is chiefly from the nomenclature of the Greeks and Romans that our own is derived. Eudoxus, contemporary of Plato, about B.C. 370, gave a description of the face of the heavens, containing the names and characters of all the constellations recognized in his time. Though this production is lost, a poetical paraphrase of it, about a century later by Aratus (q.v.), is still extant. This poem describes 12 zodiacal constellations (see ZODIAC), with 20 in the n. hemisphere, and 13 in the southern. The next enumeration occurs in the *Almagest* of Ptolemy, which includes the preceding, with three additional, one n. and two s. constellations, making in all 48. These are the ancient stellar groups. Large accessions have been made to the nomenclature in modern times, in consequence of maritime discovery having brought into

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view constellations in the s. hemisphere which never rose upon the world known to the ancient authors. In 1751, Lacaille went to the Cape at the expense of the French govt. for the purpose of making a catalogue of the southern stars, and forming them into constellations. Flattery has contributed toward the stellar nomenclature. At the restoration of Charles II., the evening before his return to London, Sir Charles Scarborough, the court physician, was gazing upon a star in the n. heavens, which shone with greater luminosity than usual, as might be expected from a loyal star on such an occasion. This, in connection with a few others, was formed into *Cor Caroli*, the Heart of Charles II., by Halley, at the doctor's recommendation. For the chief constellations, see their several titles: *ARIES*: *URSA MAJOR*: etc. The fanciful figures from which the constellations are named, are depicted on celestial globes and maps of the heavens.—In the older writers, Constellation signifies the relative positions of the planets at a given moment: see *ASPECT*.

CONSTERNATION, n. *kõn'stēr-nā'shŭn* [F. *consternation*—from L. *consternātiōnem*, dismay, alarm—from *con*, *sternĕrĕ*, to throw down, to prostrate]: amazement that produces confusion and terror; a state of horror that unfits for action; excessive wonder or surprise.—**SYN.**: alarm; terror; fear; fright; trepidation; panic; apprehension; horror; amazement; astonishment; surprise; wonder; perturbation.

CONSTIPATE, v. *kõn'stĭ-pāt* [L. *constipātus*, pressed closely together—from *con*, *stipārĕ*, to stuff or cram: It. *costipare*: F. *constiper*]: to cram into a narrow compass; to thicken; to crowd the intestinal canal; to make costive. **CON'STIPATING**, imp. **CON'STIPATED**, pp. **CON'STIPATION**, n. *-pā'shŭn* [F.—L.]: the act of crowding or pressing anything into a smaller compass; stoppage of the bowels; costiveness.—This state of the system is marked by an irregular and sluggish action of the bowels upon their contents, due either to defective secretion of the juices of the intestinal mucous membrane, or to an imperfection of the peristaltic movements (see *DIGESTION*). Sedentary habits predispose to C., as also does animal food in too great relative amount. The use of brown bread, or of lentils, oatmeal porridge, of green vegetables and salads, or of ripe fruits; the plentiful employment of salt, or of saline drinks, or of many natural mineral waters; and active exercise, especially by walking or riding on horseback in the open air, tend to avert this disease. A favorite remedy with some is the use of a cloth wrung out of cold water, and applied to the abdomen; this, as used at hydropathic establishments, is called an 'abdominal compress,' and is worn under a bandage of macintosh cloth, to keep the moisture from escaping, during the earlier part of the day. But to many persons affected with C., and unable from circumstances to follow out the plan of life here indicated, and to many others in whom the disease does not yield to these means, the use of laxatives. or mild cathartics (q.v.), is al-

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most a necessity; and it is satisfactory to know that these remedies, if judiciously selected, and not employed so as to produce over-action, may be taken during many years without any of the bad effects often ascribed to them.

Constipation in the lower animals depends, as in man, on imperfect secretion from, or motion of, the intestinal walls. In the horse, it is usually accompanied by colic (q.v.), and when long continued, leads to enteritis (q.v.). The appropriate remedies are soap and water clysters given every two hours; smart friction and cloths wrung out of hot water applied to the abdomen, with three drachms of aloes, and one of calomel, given in gruel, and repeated in 16 hours, if no effect is produced. Give besides, walking exercise; restrict the amount of dry solid food, but allow plenty of thin gruel or other fluids, which may be rendered more laxative by admixture with treacle or a little salt. Similar treatment is called for in dogs, cats, and pigs. In cattle and sheep, digestion takes place principally in the large and quadrisected stomach; the bowels, accordingly, are little liable to derangement; and C., when occurring in these animals, generally depends upon impaction of dry hard food between the leaves of the maniplies, third stomach, or fardel-bag. The complaint is hence called *fardel-bound*. It results from the eating of tough and indigestible food, such as ripe vetches, rye-grass, or clover; it prevails in dry seasons, and on pastures where the herbage is coarse and the water scarce. It occurs among cattle partaking freely of hedge-cuttings or shoots of trees, hence its synonym of *wood evil*. From continuous cramming and want of exercise, it is frequent in stall-feeding animals; while from the drying up of the natural secretions, it accompanies most febrile and inflammatory diseases. The milder cases constitute the ordinary form of indigestion in ruminants, are accompanied by what the cow-man terms *loss of cud*, and usually yield to a dose of salts given with an ounce or two of ginger. In more protracted cases, rumination is suspended, appetite gone, constipation and fever are present. There is a grunt noticeable, especially when the animal is moved, and different from that accompanying chest complaints, by its occurrence at the commencement of *expiration*. By pressing the closed fist upward and forward beneath the short ribs on the right side, the round, hard, distended stomach may be felt. This state of matters may continue for ten days or a fortnight, when the animal, if unrelieved, becomes nauseated, and sinks. Stupor sometimes precedes death, while in some seasons and localities, most of the bad cases are accompanied by excitement and frenzy. In this as in other respects, the disease closely corresponds with stomach-staggers in the horse.—*Treatment*.—Give purgatives in large doses, combining several together, and administering with stimulants in plenty of fluid. For a medium sized ox or cow, use $\frac{1}{2}$ lb each of common and Epsom salts, ten croton beans, and a drachm of calomel, with three ounces of turpentine; and administer this in half a gallon of water. If no effect is produced in twenty hours, repeat the dose. Withhold all

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solid food; encourage the animal to drink gruel, sloppy mashies, treacle, and water; and give exercise, clysters, and occasional hot fermentations to the belly.

CONSTITUENT, a. *kõn-stīt'ũ-ěnt* [F. *constituant*, constituent—from L. *constitūens* or *constitūen'tem*, putting or placing together—from *con*, *statūens*, setting up: It. *constituente*—*lit.*, putting or placing together for making a thing]: necessary or essential; elemental: N. an essential or component part; that which constitutes or composes; a voter for a member of parliament. CONSTITUENCY, n. -*ěn-sĩ*, the whole body of electors within certain limits, as within town or county. CONSTITUTE, v. *kõn'stĩ-tūt* [L. *constitūtus*, caused to stand together, established—from *con*, *statūerē*, to set up, to place—*lit.*, to put or place together in order to make a thing what it is]: to set up or establish; to make; to appoint; to empower. CONSTITUTING, imp. CONSTITUTED, pp. CONSTITUTER, n. one who. CONSTITUTION, n. *kõn'stĩ-tũ'shũn* [F. *constitution*—from L. *constitūtīōnem*, constitution, disposition, nature]: the natural frame of body of any human being or any animal; the peculiar temper of the mind, passions, or affections; the peculiar character or structure of anything, as of air; the established form of government in a country; a particular law or regulation; in *chem.*, the way in which the atoms are grouped to form the molecule of a body. CONSTITUTIONAL, a. -*āl*, inherent in the natural frame of the body or mind; legal; relating to the constitution of a country: N. in *familiar language*, a brisk walk taken for preserving bodily health. CONSTITUTIONALLY, ad. -*lĩ*. CONSTITUTIONALISM, n. -*shũn-āl-ĩzm*, the governing according to the principles of the constitution of a country; the form of government which attempts to keep the middle path between democracy and despotism, and secure the greatest freedom and good for all. CONSTITUTIONALIST, n. -*āl ĩst*, an adherent of constitutional government; a friend to an existing constitution or government; the framer or friend of a new constitution; also CONSTITUTIONIST, n. CONSTITUTIVE, a. -*tũ'tĩv*, that constitutes or forms; having power to enact. CONSTITUTIVELY, ad. -*lĩ*. ENGLISH CONSTITUTION, the sovereign, the house of lords, and the house of commons, together with the fundamental laws and customs by which they are bound and governed: see ESTATE: ENGLAND: PARLIAMENT.—SYN. of 'constitute': to create; cause; occasion; make; form; produce; establish; set; enact; compose; appoint; depute; empower:—of 'constitution': frame; temperament; formation; condition; make; conformation; law; ordinance; regulation; enactment.

CONSTITUENT ASSEMBLY (France): see ASSEMBLY, NATIONAL.

CONSTITUTED AUTHORITIES: officers properly appointed under a constitution for the govt. of a people; or powers established by a constitution for the govt. of a people, the maintenance of their individual and associated rights; distinguished from *constituting* authorities which are those that create powers or delegate the right of es-

tablishing or regulating movements that they have created.

CONSTITUTIO, *kõn-stĩ-tũ'tĩ-õ*: in civil law an establishment or settlement, used in cases of controversies settled by the parties interested without a trial; a sum paid according to agreement; an ordinance or decree deriving its force from the will of the emperor or sovereign. In old English law an ordinance or statute or the provisions of an ordinance or statute.

CONSTITUTION, in Politics: in modern acceptation, a system of law established by the sovereign power of a state *for its own guidance*. Such being the ultimate object of a C., its proximate objects, generally stated, are, to fix the limits and define the relations of the legislative, the judicial, and the executive powers of the state, both among themselves and with reference to the citizens of the state, regarded as a governed body. Among the Romans, a C. was at first nearly synonymous with the edict of a prætor (see EDICT), and even under the empire signified only an imperial edict or degree. In continental countries, since the formation of the federal government of the United States or, at all events, since the first French Revolution, the idea of a C. has been generally that of a body of written public law, promulgated at once by the sovereign power: see CODE: ASSEMBLY, NATIONAL. In Great Britain it is the whole body of the public law, consuetudinary as well as statutory, which has grown up during the course of ages, and is continually being modified by the action of the general will as interpreted and expressed by the parliamentary representatives of the nation. Much confusion is often introduced into popular conceptions of the action of the English and other mixed governments by representing the three elements of which they are generally composed—the monarchical, aristocratic, and democratic (King, Lords, and Commons)—as the centres of three independent sovereignties, whereas they are only three organs through which the one sovereignty finds expression. There is, and can be, in an independent state, but one sovereignty—one centre of power—viz., the general will of the nation. Opposition to this will in lawful expression, whencesoever the opposition may come, within the state, is treason in the individual, and rebellion in the mass; whereas the vindication of this will by its own act may be revolution but can never be rebellion. Another source of error consists in supposing this general will to be the numerical aggregate of all the individual wills in the community. It is, on the contrary, the sum of all the wills, not numerically but really, making allowance, that is to say, for the fact that one individual, from the greater clearness of his convictions and strength of his character, often contributes to this sum, or mass of volition, ten times as much force as another individual.

But though the idea of a mixed government is generally associated with that of a C., it does not seem inseparable from it. We are not entitled, for example, to deny the

name of a C. to a system which is apparently the result of a single will, if to that will the general will has freely confided the task of determining the rules by which it shall be governed. Assuming that the late emperor of the French was invested with supreme power by this ultimate sovereign, the general will, the government which he established was, for the time being, the C. of France. But inasmuch as France had, under the imperial system of government, no parliamentary machinery for effecting desired or desirable changes in its C., the 'right of revolution,' as it is called, became a necessity on the part of those who conceived that they embodied and were in a condition to express the general will. Disorderly as it may seem on the surface, it was really within the limits of the C., as constitutional as the C. which at any moment it might have overthrown. In a parliamentary government like that of England, however, the right of revolution emerges only when the self-modifying powers of the C. are obstructed or opposed by the executive, as in 1688. While in pure monarchies revolution hangs permanently over the head of the executive, even when acting in accordance with the C., in a free country resistance is rebellion in all cases in which the machinery which the C. possesses for its own modification is unimpeded in its action. Of resistance of this latter kind, the events that culminated in the late war of secession in the United States furnish an example.

For a historical account of the English C., see ENGLAND: PARLIAMENT. On the general subject, see CHARTE: CHARTER: CONGRESS: CODE: CORTES: etc.

CONSTITUTION OF A STATE: organic law of one of the states of the American Union, prepared by direction of its people and sanctioned by their votes: it defines the methods and means of its govt. in executive, legislative, and judicial form; the rights, privileges, and immunities of its citizens; and the relations of the whole commonwealth to the subordinate counties, cities, townships, towns, etc. In early colonial days the administration established by royal patent or charter was based on the common laws of England. The Puritans believed that the Scriptures furnished a sufficient code for their guidance, and adapted the laws of Moses to their immediate necessities. But the first complete form of civil govt. in the new world was the Hartford constitution adopted 1639. This document was so complete in all its provisions that it was almost entirely incorporated in the charter of 1662, which proved sufficient for the state of Conn. till 1818, beside furnishing the essential features of the constitutions of the several states as they now exist. The C. of a S. must harmonize in all its parts with that of the United States, and all enactments of a legislature must be in conformity with the C. of a S.; any deviation from these requirements renders a legislative act void. The C. of a S. may be amended or revised from time to time, should the citizens so desire, and the convention called to make such revision will be composed of delegates specially elected for the purpose, and governed by the

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usual rules of the legislature of the state: see CONSTITUTIONAL CONVENTION.

CONSTITUTIONAL CONVENTION: assembly of delegates elected by popular vote to prepare or revise the constitution of a state. The 13 original states were admitted into the Union by the act of ratifying the federal constitution of 1787; the others have been received after the passage of enabling acts by congress, and the approval by it of drafts of proposed constitutions. The first duty of a territorial candidate for statehood after the adoption of its enabling act, is to call a C. C. and prepare a constitution, which must conform to the provisions of the federal constitution and amendments, and to the spirit of subsequent legislation by congress. On the filing in Washington of a certificate of adoption of a constitution by the popular vote of the people in the territory, the pres. of the United States issues a proclamation announcing the admission of the territory into the Union as a state. Subsequently, if deemed necessary or advantageous, the legislature may authorize a C. C. for the purpose of revising the constitution. At the close of the war of secession each of the states formerly in rebellion was obliged to hold a C. C. to prepare a new constitution, recognizing the amendments to the federal constitution that had been adopted by the northern states as a consequence of the war, with those portions of national legislation which were designed to be general in their application.

CONSTITUTION OF MATTER: see ATOM: ATOMIC THEORY: ATOMIC WEIGHTS: CHEMISTRY: MATTER: VORTEX: GASES: FORCE, CONSERVATION OF: ETHER, or ÆTHER.

CONSTITUTION OF THE UNITED STATES.

CONSTITUTION OF THE UNITED STATES: the supreme law of the land, proposed by the convention of 1787 to take the place of the Articles of Confederation, and ratified by a sufficient number of states for it to go into operation 1789. The following is the complete text, with the preamble and subsequent amendments :

We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this constitution for the United States of America.

ARTICLE I., SEC. 1.—All legislative powers herein granted shall be vested in a congress of the United States, which shall consist of a senate and house of representatives.

SEC. 2.—The house of representatives shall be composed of members chosen every second year by the people of the several states ; and the electors in each state shall have the qualifications requisite for electors of the most numerous branch of the state legislature.

No person shall be a representative who shall not have attained to the age of twenty-five years, and been seven years a citizen of the United States, and who shall not, when elected, be an inhabitant of that state in which he shall be chosen.

Representatives and direct taxes shall be apportioned among the several states which may be included within this Union, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to service for a term of years, and excluding Indians not taxed, three-fifths of all other persons. The actual enumeration shall be made within three years after the first meeting of the congress of the United States, and within every subsequent term of ten years, in such manner as they shall by law direct. The number of representatives shall not exceed one for every 30,000, but each state shall have at least one representative ; and until such enumeration shall be made, the state of New Hampshire shall be entitled to choose three; Massachusetts, eight; Rhode Island and Providence Plantations, one; Connecticut, five; New York, six; New Jersey, four; Pennsylvania, eight; Delaware, one; Maryland, six; Virginia, ten; North Carolina, five; South Carolina, five; and Georgia, three.

When vacancies happen in the representation from any state, the executive authority thereof shall issue writs of election to fill such vacancies.

The house of representatives shall choose their speaker and other officers, and shall have the sole power of impeachment.

SEC. 3.—The senate of the United States shall be composed of two senators from each state, chosen by the legislature thereof for six years; and each senator shall have one vote.

Immediately after they shall be assembled in conse-

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quence of the first election, they shall be divided as equally as may be into three classes. The seats of the senators of the first class shall be vacated at the expiration of the second year, of the second class at the expiration of the fourth year, and of the third class at the expiration of the sixth year, so that one-third may be chosen every second year; and if vacancies happen, by resignation or otherwise, during the recess of the legislature of any state, the executive thereof may make temporary appointments until the next meeting of the legislature, which shall then fill such vacancies.

No person shall be a senator who shall not have attained the age of thirty years, and been nine years a citizen of the United States, and who shall not, when elected, be an inhabitant of that state for which he shall be chosen.

The vice-president of the United States shall be president of the senate, but shall have no vote unless they be equally divided.

The senate shall choose their other officers, and also a president *pro tempore* in the absence of the vice-president, or when he shall exercise the office of president of the United States.

The senate shall have the sole power to try all impeachments. When sitting for that purpose, they shall be on oath or affirmation. When the president of the United States is tried, the chief justice shall preside. and no person shall be convicted without the concurrence of two-thirds of the members present.

Judgment in cases of impeachment shall not extend further than to removal from office, and disqualification to hold and enjoy any office of honor, trust, or profit under the United States; but the party convicted shall nevertheless be liable and subject to indictment, trial, judgment, and punishment, according to law.

SEC. 4.—The times, places, and manner of holding elections for senators and representatives shall be prescribed in each state by the legislature thereof; but the congress may at any time, by law, make or alter such regulations, except as to the places of choosing senators.

The congress shall assemble at least once in every year; and such meeting shall be on the first Monday in December, unless they shall by law appoint a different day.

SEC. 5.—Each house shall be the judge of the elections, returns, and qualifications of its own members, and a majority of each shall constitute a quorum to do business; but a smaller number may adjourn from day to day, and may be authorized to compel the attendance of absent members, in such manner and under such penalties as each house may provide.

Each house may determine the rules of its proceedings, punish its members for disorderly behavior, and with the concurrence of two-thirds, expel a member.

Each house shall keep a journal of its proceedings, and from time to time publish the same, excepting such parts as may in their judgment require secrecy, and the yeas and nays of the members of either house on any question

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shall, at the desire of one-fifth of those present, be entered on the journal.

Neither house, during the session of congress, shall, without the consent of the other, adjourn for more than three days, nor to any other place than that in which the two houses shall be sitting.

SEC. 6.—The senators and representatives shall receive a compensation for their services, to be ascertained by law, and paid out of the treasury of the United States. They shall, in all cases, except treason, felony, and breach of the peace, be privileged from arrest during the irattendance at the session of their respective houses, and in going to, and returning from the same; and for any speech or debate in either house they shall not be questioned in any other place.

No senator or representative shall, during the time for which he was elected, be appointed to any civil office under the authority of the United States, which shall have been created, or the emoluments whereof shall have been increased, during such time; and no person holding any office under the United States shall be a member of either house during his continuance in any office.

SEC. 7.—All bills for raising revenue shall originate in the house of representatives; but the senate may propose or concur with amendments, as on other bills.

Every bill which shall have passed the house of representatives and the senate, shall, before it become a law, be presented to the president of the United States; if he approve, he shall sign it; but if not, he shall return it, with his objections, to that house in which it shall have originated; who shall enter the objections at large on their journal, and proceed to reconsider it. If, after such reconsideration, two-thirds of that house shall agree to pass the bill, it shall be sent, together with the objections, to the other house, by which it shall likewise be reconsidered; and if approved by two-thirds of that house, it shall become a law. But in all such cases the votes of both houses shall be determined by yeas and nays, and the names of the persons voting for and against the bill shall be entered on the journal of each house respectively. If any bill shall not be returned by the president within ten days (Sundays excepted) after it shall have been presented to him, the same shall be a law in like manner as if he had signed it, unless the congress by their adjournment prevent its return, in which case it shall not be a law.

Every order, resolution, or vote, to which the concurrence of the senate and house of representatives may be necessary (except on a question of adjournment), shall be presented to the president of the United States; and before the same shall take effect, shall be approved by him; or being disapproved by him, shall be repassed by two-thirds of the senate and house of representatives, according to the rules and limitations prescribed in the case of a bill.

SEC. 8.—The congress shall have power to lay and collect taxes, duties, imposts, and excises; to pay the debts, and provide for the common defense and general welfare

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of the United States; but all duties, imposts, and excises shall be uniform throughout the United States; to borrow money on the credit of the United States; to regulate commerce with foreign nations, and among the several states, and with the Indian tribes; to establish a uniform rule of naturalization, and uniform laws on the subject of bankruptcies throughout the United States; to coin money, regulate the value thereof and of foreign coin, and to fix the standard of weights and measures; to provide for the punishment of counterfeiting the securities and current coin of the United States; to establish post-offices and post-roads; to promote the progress of science and useful arts, by securing for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries; to constitute tribunals inferior to the supreme court; to define and punish piracies and felonies committed on the high seas, and offenses against the law of nations; to declare war, grant letters of marque and reprisal, and make rules concerning captures on land and water; to raise and support armies; but no appropriation of money to that use shall be for a longer term than two years; to provide and maintain a navy; to make rules for the government and regulation of the land and naval forces; to provide for calling forth the militia to execute the laws of the Union, suppress insurrections, and repel invasions; to provide for organizing, arming, and disciplining the militia, and for governing such parts of them as may be employed in the service of the United States; reserving to the states respectively the appointment of the officers and the authority of training the militia according to the discipline prescribed by congress; to exercise exclusive legislation in all cases whatsoever, over such district (not exceeding ten miles square) as may, by cession of particular states, and the acceptance of congress, become the seat of government of the United States; and to exercise like authority over all places purchased by the consent of the legislature of the state in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings;—and to make all laws which shall be necessary and proper for carrying into execution the foregoing powers and all other powers vested by this constitution in the government of the United States, or in any department or officer thereof.

SEC. 9.—The migration or importation of such persons as any of the states now existing shall think proper to admit, shall not be prohibited by the congress prior to the year one thousand eight hundred and eight; but a tax or duty may be imposed on such importation not exceeding ten dollars for each person.

The privilege of the writ of *habeas corpus* shall not be suspended, unless when, in cases of rebellion or invasion, the public safety may require it.

No bill of attainder or *ex post facto* law shall be passed.

No capitation or other direct tax shall be laid, unless in proportion to the census or enumeration hereinbefore directed to be taken.

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No tax or duty shall be laid on articles exported from any state.

No preference shall be given by any regulation of commerce or revenue to the ports of one state over those of another; nor shall vessels bound to or from one state be obliged to enter, clear, or pay duties in another.

No money shall be drawn from the treasury, but in consequence of appropriations made by law; and a regular statement and account of the receipts and expenditures of all public money shall be published from time to time.

No title of nobility shall be granted by the United States: and no person holding any office of profit or trust under them, shall, without the consent of the congress, accept of any present, emolument, office, or title, of any kind whatever, from any king, prince, or foreign state.

SEC. 10.—No state shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any bill of attainder, *ex post facto* law, or law impairing the obligation of contracts; or grant any title of nobility.

No state shall, without the consent of the congress, lay any imposts or duties on imports or exports, except what may be absolutely necessary for executing its inspection laws: and the net produce of all duties and imposts, laid by any state on imports or exports, shall be for the use of the treasury of the United States, and all such laws shall be subject to the revision and control of the congress.

No state shall, without the consent of congress, lay any duty on tonnage, keep troops or ships of war in time of peace, enter into any agreement or compact with another state, or with a foreign power, or engage in war, unless actually invaded, or in such imminent danger as will not admit of delay.

ARTICLE II., SEC. 1.—The executive power shall be vested in a president of the United States of America. He shall hold his office during the term of four years; and, together with the vice-president, chosen for the same term, be elected as follows:

Each state shall appoint, in such manner as the legislature thereof may direct, a number of electors equal to the whole number of senators and representatives to which the state may be entitled in the congress; but no senator or representative, or person holding an office of trust or profit under the United States, shall be appointed an elector.*

The congress may determine the time of choosing the electors, and the day on which they shall give their votes, which day shall be the same throughout the United States.

No person, except a natural born citizen, or a citizen of the United States at the time of the adoption of this constitution, shall be eligible to the office of the president: neither shall any person be eligible to that office who shall

* Changed by 12th amendment (q.v.).

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not have attained to the age of thirty-five years, and been fourteen years a resident within the United States.

In the case of the removal of the president from office, or of his death, resignation, or inability to discharge the powers and duties of the said office, the same shall devolve on the vice-president; and the congress may, by law, provide for the case of removal, death, resignation, or inability, both of the president and vice-president, declaring what officer shall then act as president; and such officer shall act accordingly, until the disability be removed, or a president shall be elected.

The president shall, at stated times, receive for his services a compensation, which shall neither be increased nor diminished during the period for which he shall have been elected; and he shall not receive within that period any other emolument from the United States, or any of them.

Before he enters on the execution of his office, he shall take the following oath or affirmation: 'I do solemnly swear (or affirm) that I will faithfully execute the office of president of the United States: and will, to the best of my ability, preserve, protect, and defend the constitution of the United States.'

SEC. 2.—The president shall be commander-in-chief of the army and navy of the United States, and of the militia of the several states, when called into the actual service of the United States; he may require the opinion, in writing, of the principal officer in each of the executive departments, upon any subjects relating to the duties of their respective offices; and he shall have power to grant reprieves and pardons for offenses against the United States, except in cases of impeachment.

He shall have power, by and with the advice and consent of the senate, to make treaties, provided two-thirds of the senators present concur; and he shall nominate, and, by and with the advice and consent of the senate, shall appoint ambassadors and other public ministers and consuls, judges of the supreme court, and all other officers of the United States whose appointments are not herein otherwise provided for, and which shall be established by law; but the congress may, by law, vest the appointment of such inferior officers as they think proper, in the president alone, in the courts of law, or in the heads of departments.

The president shall have power to fill up all vacancies that may happen during the recess of the senate, by granting commissions, which shall expire at the end of their next session.

SEC. 3.—He shall, from time to time, give to the congress information of the state of the Union, and recommend to their consideration such measures as he shall judge necessary and expedient; he may, on extraordinary occasions, convene both houses, or either of them, and in case of disagreement between them, with respect to the time of adjournment, he may adjourn them to such time as he shall think proper; he shall receive ambassadors and other public ministers; he shall take care that the laws be faithfully

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executed, and shall commission all officers of the United States.

SEC. 4.—The president, vice-president, and all civil officers of the United States, shall be removed from office on impeachment for, and conviction of, treason, bribery, or other high crimes and misdemeanors.

ARTICLE III., SEC. 1.—The judicial power of the United States shall be vested in one supreme court, and in such inferior courts of the congress may, from time to time, ordain and establish. The judges, both of the supreme and inferior courts, shall hold their offices during good behavior; and shall, at stated times, receive for their services a compensation, which shall not be diminished during their continuance in office.

SEC. 2.—The judicial power shall extend to all cases in law and equity arising under this constitution, the laws of the United States, and treaties made, or which shall be made, under their authority; to all cases affecting ambassadors, other public ministers, and consuls; to all cases of admiralty and maritime jurisdiction; to controversies to which the United States shall be a party; to controversies between two or more states; between a state and citizens of another state; between citizens of different states; between citizens of the same state claiming lands under grants of different states; and between a state, or the citizens thereof, and foreign states, citizens, or subjects.

In all cases affecting ambassadors, other public ministers, and consuls, and those in which a state shall be a party, the supreme court shall have original jurisdiction. In all the other cases before mentioned, the supreme court shall have appellate jurisdiction, both as to law and fact, with such exceptions and under such regulations as the congress shall make.

The trial of all crimes, except in cases of impeachment, shall be by jury, and such trial shall be held in the state where the said crimes shall have been committed; but when not committed within any state, the trial shall be at such place or places as the congress may by law have directed.

SEC. 3.—Treason against the United States shall consist only in levying war against them, or in adhering to their enemies, giving them aid and comfort.

No person shall be convicted of treason, unless on the testimony of two witnesses to the same overt act, or on confession in open court.

The congress shall have power to declare the punishment of treason; but no attainder of treason shall work corruption of blood, or forfeiture, except during the life of the person attainted.

ARTICLE IV., SEC. 1.—Full faith and credit shall be given in each state to the public acts, records, and judicial proceedings of every other state. And the congress may by general laws prescribe the manner in which such acts, records, and proceedings shall be proved, and the effect thereof.

SEC. 2.—The citizens of each state shall be entitled to all

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the privileges and immunities of citizens in the several states.

A person charged in any state with treason, felony, or other crime, who shall flee from justice, and be found in another state, shall, on demand of the executive authority of the state from which he fled, be delivered up, to be removed to the state having jurisdiction of the crime.

No person held to service or labor in one state, under the laws thereof, escaping into another, shall, in consequence of any law or regulation therein, be discharged from such service or labor; but shall be delivered up on claim of the party to whom such service or labor may be due.

SEC. 3.—New states may be admitted by the congress into this Union; but no new state shall be formed or erected within the jurisdiction of any other state, nor any state be formed by the junction of two or more states, or parts of states, without the consent of the legislatures of the states concerned, as well as of the congress.

The congress shall have power to dispose of, and make all needful rules and regulations respecting the territory or other property belonging to the United States; and nothing in this constitution shall be so construed as to prejudice any claims of the United States, or of any particular state.

SEC. 4.—The United States shall guarantee to every state in this Union a republican form of government, and shall protect each of them against invasion: and, on application of the legislature, or of the executive (when the legislature cannot be convened), against domestic violence.

ARTICLE V.—The congress, whenever two-thirds of both houses shall deem it necessary, shall propose amendments to this constitution; or, on the application of the legislatures of two-thirds of the several states, shall call a convention for proposing amendments, which, in either case, shall be valid, to all intents and purposes, as parts of this constitution, when ratified by the legislatures of three-fourths of the several states, or by conventions in three-fourths thereof, as the one or the other mode of ratification may be proposed by the congress; provided that no amendment which may be made prior to the year one thousand eight hundred and eight shall in any manner affect the first and fourth clauses in the ninth section of the first article; and that no state, without its consent, shall be deprived of its equal suffrage in the senate.

ARTICLE VI.—All debts contracted, and engagements entered into, before the adoption of this constitution, shall be as valid against the United States under this constitution as under the Confederation.

This constitution, and the laws of the United States which shall be made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the constitution or laws of any state to the contrary notwithstanding.

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The senators and representatives before mentioned, and the members of the several state legislatures, and all executive and judicial officers both of the United States and of the several states, shall be bound by oath or affirmation to support this constitution; but no religious test shall ever be required as a qualification to any office or public trust under the United States.

ARTICLE VII.—The ratification of the conventions of nine states shall be sufficient for the establishment of this constitution between the states so ratifying the same.

Done in convention, by the unanimous consent of the states present, the seventeenth day of September, in the year of our Lord one thousand seven hundred and eighty-seven, and of the Independence of the United States of America the twelfth. In witness whereof we have hereunto subscribed our names.

GEORGE WASHINGTON,
President, and Deputy from Virginia.

Amendments to the Constitution.—ARTICLE I.—Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.

ARTICLE II.—A well-regulated militia being necessary to the security of a free state, the right of the people to keep and bear arms shall not be infringed.

ARTICLE III.—No soldier shall, in time of peace, be quartered in any house without the consent of the owner, nor in time of war, but in a manner to be prescribed by law.

ARTICLE IV.—The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated; and no warrants shall issue but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

ARTICLE V.—No person shall be held to answer for a capital or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be put twice in jeopardy of life or limb; nor shall be compelled in any criminal case to be witness against himself; nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use without just compensation.

ARTICLE VI.—In all criminal prosecutions the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the state and district wherein the crime shall have been committed, which district shall have been previously ascertained by law; and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for

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obtaining witnesses in his favor; and to have the assistance of counsel for his defense.

ARTICLE VII.—In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury shall be otherwise re-examined in any court of the United States, than according to the rules of the common law.

ARTICLE VIII.—Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

ARTICLE IX.—The enumeration in the constitution of certain rights shall not be construed to deny or disparage others retained by the people.

ARTICLE X.—The powers not delegated to the United states by the constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people.*

ARTICLE XI.—The judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by citizens of another state, or by citizens or subjects of any foreign state.†

ARTICLE XII.—The electors shall meet in their respective states, and vote by ballot for president and vice-president, one of whom, at least, shall not be an inhabitant of the same state with themselves. They shall name in their ballots the person voted for as president, and in distinct ballots the person voted for as vice-president; and they shall make distinct lists of all persons voted for as president, and of all persons voted for as vice-president, and of the number of votes for each; which lists they shall sign and certify, and transmit sealed to the seat of the government of the United States, directed to the president of the senate. The president of the senate shall, in the presence of the senate and house of representatives, open all the certificates, and the votes shall then be counted. The person having the greatest number of votes for president shall be the president, if such number be a majority of the whole number of electors appointed: and if no person have such majority, then from the persons having the highest numbers, not exceeding three, on the list of those voted for as president, the house of representatives shall choose immediately, by ballot, the president. But, in choosing the president, the votes shall be taken by states, the representation from each state having one vote: a quorum for this purpose shall consist of a member or members from two-thirds of the states, and a majority of all the states shall be necessary to a choice. And if the house of representatives shall not choose a president, whenever the right of choice shall devolve upon them, before the fourth day of March next following, then the vice-president shall act as president, as in the case of the death or other constitutional

* The above articles were proposed by the first congress 1789-90.

† Proposed 1798.

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disability of the president. The person having the greatest number of votes as vice-president shall be the vice-president, if such number be a majority of the whole number of electors appointed; and if no person have a majority, then from the two highest numbers on the list the senate shall choose the vice-president. A quorum for the purpose shall consist of two-thirds of the whole number of senators, and a majority of the whole number shall be necessary to a choice. But no person constitutionally ineligible to the office of president shall be eligible to that of vice-president of the United States.*

ARTICLE XIII.—Sec. 1.—Neither slavery nor involuntary servitude, except as a punishment for crime, whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

Sec. 2.—Congress shall have power to enforce this article by appropriate legislation.†

ARTICLE XIV.—Sec. 1.—All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States, and the state wherein they reside. No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Sec. 2.—Representatives shall be apportioned among the several states according to their respective numbers, counting the whole number of persons in each state, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for president or vice-president of the United States, representatives in congress, the executive and judicial officers of a state, or the members of the legislature thereof, is denied to any of the male inhabitants of such state being twenty-one years of age, the citizens of the United States, or in any way abridged, except for participation in rebellion or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such state.

Sec. 3.—No person shall be a senator or representative in congress, or elector of president and vice-president, or hold any office, civil or military, under the United States, or under any state, who, having previously taken an oath as a member of congress, or as an officer of the United States, or as a member of any state legislature, or as an executive or judicial officer of any state, to support the constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But congress may, by a vote of two-thirds of each house, remove such disability.

Sec. 4.—The validity of the public debt of the United States, authorized by law, including debts incurred for pay-

* Proposed 1803.

† Proposed 1865.

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ment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any other state shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations, and claims shall be held illegal and void.

Sec. 5.—The congress shall have power to enforce, by appropriate legislation, the provisions of this article.*

ARTICLE XV. Sec. 1.—The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any state on account of race, color, or previous condition of servitude.

Sec. 2.—The congress shall have power to enforce this article by appropriate legislation.†

CONSTITUTIONS, APOSTOLICAL: see APOSTOLICAL CANONS AND CONSTITUTIONS.

CONSTITUTIONS OF CLARENDON: see CLARENDON, CONSTITUTIONS OF.

CONSTRAIN, v. *kõn-strān'* [F. *contraindre*; OF. *constraindre*—from L. *constringere*, to draw or bind together—from *con*, *stringere*, to bind, to strain—*lit.*, to draw or bind together]: to force or compel; to press or urge with a force sufficient to produce a desired effect. CONSTRAIN'ING, imp. CONSTRAINED', pp. *-strānd'*. CONSTRAIN'EDLY, ad. *-ěd-lě*. CONSTRAIN'ABLE, a. *-ă-bī*, that may be forced or repressed. CONSTRAINT', n. *-strānt'* [F. *contrainte*]: any force or power, physical or moral, that compels to do, or keeps from doing.—SYN. of 'constrain': to bind; compel; force; drive; oblige; coerce; impel; press; urge;—of 'constraint', compulsion; urgency; violence; necessity; confinement.

CONSTRIC, v. *kõn-strīkt'* [L. *constrictus*, drawn or bound together (see CONSTRAIN)]: to draw or bind together; to bind; to draw into a narrow compass. CONSTRIC'TING, imp. CONSTRIC'TED, pp.: ADJ. tightened or contracted. CONSTRIC'TOR, n. *-tēr*, that which contracts or draws together; a large species of serpent, as the *boa constrictor*, which squeezes its victims to death. CONSTRIC'TION, n. *-strīk'shūn* [F.—L]: a contracting or drawing together.

CONSTRINGE, v. *kõn-strīnj'* [see CONSTRAIN]: to contract; to force into a narrow compass. CONSTRING'ING, imp. CONSTRINGED', pp. *-strīnjđ'*. CONSTRIN'GENT, a. *-strīnjěnt*, having the property of contracting or drawing together.

CONSTRUCT, v. *kõn-strūkt'* [L. *constructus*, heaped or piled together, built—from *con*, *structus*, piled up, built]: to pile up or build; to compose and put in order; to make; to invent. CONSTRUC'TING, imp. CONSTRUC'TED, pp. CONSTRUC'TER, n. [F. *constructeur*]: one who. CONSTRUC'TION, n. *strūk'shūn* [F.—L.]: the act of building; the thing formed or built; the proper arrangement and connection of words in a sentence; the sense, meaning, or

* Proposed 1868.

† Proposed 1870.

interpretation, as of the words of another, etc.; the manner of drawing figures or diagrams in mathematics. CONSTRUCTIONAL, a. -*āl*, pertaining to. CONSTRUCTIVE, a. -*tiv*, not directly expressed but inferred. CONSTRUCTIVELY, ad. -*lī*. CONSTRUCTIVENESS, n. in *phren.*, the faculty of the mind that produces a desire to construct or form.—SYN. of 'construct'. to build; erect; fabricate; form: make; originate; invent; devise; arrange; — of 'construction'. edifice; building; fabric; structure; fabrication; composition; conformation; arrangement; understanding; explanation; sense.

CONSTRUE, v. *kōn'stró* [L. *constru'ērē*, to construct, to make—from *con*, *strūērē*, to heap up, to pile: F. and It. *construire* (see CONSTRUCT)]: to arrange words in their natural order when translating a dead or foreign language; to interpret; to explain. CONSTRUING, imp. CONSTRUED, pp. -*stród*.

CONSTUPRATE, v. *kōn'stū-prāt* [L. *constuprātus*, violated—from *con*, *stupro*, I ravish]: to violate the person of; to ravish. CONSTUPRATION, n. -*prā'shūn*.

CONSUALIA, n. *kōn-sū-ā'li-a* [L. *Consus*, a name of Neptune. According to Festus he was the god of counsel]. in *Roman archeol.*, games in honor of Consus (see etym.), celebrated by the Romans on the twelfth day of the kalends of September, i.e., Aug. 18. These were the games at which the Romans carried off the Sabine women who had come as spectators; indeed, it is said that it was to facilitate this lawless act that Romulus resolved to observe the games. They were afterward called Circenses, from being celebrated in the circus.

CONSUBSTANTIAL, a. *kōn'sūb-stān'shāl* [F. *consubstantiel*—from L. *consubstantiālis*—from *con*, *substantiā*, substance or matter]: having the same substance, essence, or nature. CONSUBSTANTIALLY, ad. -*lī*. CONSUBSTANTIATE, v. -*shī-āt*, to unite in one common substance or nature. CONSUBSTANTIATING, imp. CONSUBSTANTIATED, pp. CONSUBSTANTIATION, n. -*shī-ā'shūn*, theory of a substantial local union of the body and blood of our Lord with the consecrated bread and wine in the Eucharist; often, but erroneously, attributed to the Lutheran Church. See TRANSUBSTANTIATION. CONSUBSTANTIALITY, -*shī-āl'ī-tī*, the existence of more than one in the same substance. CONSUBSTANTIALIST, n. -*ist*, one who believes in consubstantiation.

CONSUETUDE, n. *kōn swē-tūd* [L. *consuetudo*, habit, use—from *con*, *sūctum*, to be accustomed, to be wont]: custom; usage. CONSUETUDINARY, a. -*tū'dī-nēr-ī*, customary; derived from use and wont; from time immemorial.

CONSUETUDINARY LAW, *kōn-swē-tū'dī-nēr-ī*: law which derives its binding character, not from the expressed, but from the tacit consent of the general will of the community. As it is generally transmitted from age to age by oral tradition and universal custom, and is rarely embodied

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in any positive enactment, C. L. is spoken of often as unwritten law (*lex non scripta*). The customary laws of Normandy, Brittany, and some other provinces of France, however, were reduced to writing; and much of the common law, of England and of Scotland, now rests on statute, as well as on custom and usage. Even in modern practice, usage is often resorted to as the best interpreter of law. Of this a familiar example is the important part assigned to mercantile usage in construing the law-merchant. In this case, the custom must generally be established by evidence, in place of being taken for granted, as are the laws of primogeniture, legitim, terce, courtesy, and the like. For the effect of custom in repealing statutes, see DESUETUDE. See also COMMON LAW.

CONSUL, n. *kŏn'sŭl* [L. *consul*—from *con'sulo*, I consider, I deliberate: It. *console*; F. *consul*, a consul]: in *anc. Rome*, a person elected to exercise sovereign power in the state—there being two of them chosen annually; a person chosen to represent in certain respects a sovereign or a country in a foreign state, and to look after the interests of his country in that state. CON'SULAR, a. *-sŭ-lĕr*, pertaining to the power or dignity of a consul. CONSULSHIP, n. *kŏn'sŭl-shĭp*, the office. CON'SULATE, n. *-sŭ-lāt*, the office, jurisdiction, or residence of a consul. CONSULATE OF THE SEA, collection of maritime codes and customs, published in Barcelona, Spain, 15th c. For a translation of its most valuable portion, *The Customs of the Sea*, see Appendix to the *Black Book of the Admiralty* (Lond. 1874). CON'SUL-AGE, n. *-lāj*, a duty laid on imports and exports by the consul of a port.

CON'SUL: title of the two highest ordinary magistrates in the Roman republic. The etymology of the word seems to imply there were more than one—that there were colleagues. The idea of two supreme magistrates, or joint-presidents of the state, seems to have been interwoven with the earliest conceptions of political organization in Rome. According to tradition, there were at first two kings; and the constitution of Servius is said to have provided for the sovereign power being again divided between two functionaries. But it was not till after the expulsion of Tarquin that Lucius Junius Brutus and Lucius Tarquinius Collatinus were chosen joint-heads of the state. These chief-magistrates appear to have been at first called *prætores* (leaders, i e., of the armies), and the title of *consules* was introduced probably about B.C. 300. At first, the consuls seem to have differed from the kings in little else than their limited tenure of office, and the power which their fellow-citizens retained of calling them to account at its termination. They never assumed the golden crown, but their dress in almost every other respect was regal, and they had ivory sceptres surmounted by eagles. In public assemblies, they occupied a sort of throne (*sella curulis*), and in the senate they presided and sat on elevated seats. They made peace and negotiated foreign alliances, had the supreme command of the army, and appointed the public treasurers. They

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likewise exercised the judicial functions of royalty. In their capacity of supreme judges they continued to be known as *prætores*, until ultimately separate magistrates with that title were appointed. The symbol of their authority was the bundle of rods (*fascēs*), with the axe in the centre, which was carried before them by twelve lictors. For a considerable period, the consuls were chosen exclusively from the *populus* or patricians, as opposed to the *plebs*; and during the long struggle between the patricians and plebians, they sided invariably with their own order. At length, however, two plebeian officers, called *tribuni plebis*, were appointed as a sort of democratic rivals to the aristocratic consuls. To them was assigned the duty of presiding in the assemblies of the plebeians, as the consuls did in the other assemblies; and though they could not dictate, they were entitled by their *veto* to arrest measures proceeding on consular or senatorial authority. The result of this rivalry was, that the consulship was opened to plebeians; and from B.C. 172 to the period of the empire, the consuls were frequently plebeians. In accordance with the ordinary course of political development, the organization of the Roman state became more complicated, in proportion as it became impossible for the C. to discharge in person the various duties which in the beginning always centre in the possessors of supreme power. In B.C. 442, censors (q.v.) were appointed. In 365, prætors had the chief judicial functions of the consuls assigned to them. In the government of the provinces, the aid of the former consuls was called in, the C. thus appointed having the title of *pro-consul*. In sudden and critical emergencies, the consuls were either superseded by a dictator (q.v.), or absolute power for the occasion was conferred on them by the decree of the senate, which ran in the famous formula: *Videant consules ne quid respublica detrimenti capiat*—‘Let the consuls look to it, that the state take no harm.’ The oath which the consuls took on entering office they were obliged to repeat as a declaration, not of intention but of fact, on quitting it at the end of the year. The consuls were inaugurated by a great procession to the Capitol and a sacrifice to Jupiter Capitolinus. The shadow of the consulate survived the downfall of liberty; but the election of the consuls was taken from the people and conferred on the senate. Then their number was increased; they were divided into classes—*C. ordinarii*, *suffecti*, *honorarii*, etc.—till at last the office became a mere honorary appointment conferred by the emperor.

The title of C. was revived in the French republic: see CONSULATE.

CONSUL, MERCANTILE: officer whom the state maintains in a foreign country for the protection of its trade, and vindication of the rights of its merchants, and to whom the further duty is assigned of keeping the home government informed of all facts bearing on the commercial interests of the country. The practice of appointing such officers originated among the trading communities of Italy about the middle of the 12th c., and gradually extended itself; and in the 16th c., had been adopted by all the coun-

tries of Europe. In addition to their commercial duties, others of a more strictly political kind were frequently confided to consuls in places in which there was no ambassador or political agent. In almost all the countries of Europe, consuls are divided into consuls-general, consuls, vice-consuls, and consular agents. The C.'s first duty on his arrival, is to exhibit his commission to the authorities of the country to which he is accredited, in order that he may obtain their sanction to his appointment. This sanction is communicated to him in a document called an *exequatur*, which secures to him the enjoyment of such 'privileges, immunities, and exemptions as have been enjoyed by his predecessors, and as are usually granted to consuls in the country in which he is to reside.' A C. is expected, and is under orders to make himself conversant with the laws and general principles which relate to the trade of his country with foreign parts, and with the language and municipal laws of the country wherein he resides. Further, it is his duty to protect his countrymen in the lawful exercise of their trade, to quiet their differences, to obtain the redress of injuries done them—failing which, to report the matter to the ambassador of his country at the court of that nation—and to forward to his home govt. various returns of the trade of the ports within his consulate, as well as accounts of market prices and of the course of exchange, etc. The C. must afford relief to seamen or others from his own country, wrecked on the coast, and at public expense procure them the means of returning home, and take charge of effects saved from such wrecked vessels, in lack of an owner or his legal representative. He is also to aid in settling disputes between officers and crews. He is expected to give needful intelligence and aid to naval vessels of his country touching on the coast. A C. has it for his duty to administer on the estate of any citizen of the country which he represents who dies within his consular jurisdiction, in lack of any legal representative. As regards the 'privileges and immunities' of a C., it is doubtful whether he is in any case exempt from the civil jurisdiction of the state to which he is accredited; though consuls generally have special privileges under local law and usage, such as permission to call in a guard when he requires it for his own safety, or the preservation of discipline; and in countries not inhabited by a population of European stock, he has practically the privileges of an ambassador. A C. can perform the acts of a notary-public; the legal fiction being that the consulate is the territory of the country from which the C. is sent.

British consuls are in some cases allowed to trade; in others, they are prohibited from trade. The salary of British consuls-general varies from £300 to £2,000, the average being about £1,000; the salary of a consul varies from £100 to £1,500, and of a vice-consul, from £50 to £800. U. S. consuls are appointed by the pres. with consent of the senate, and give bonds for faithful performance of duty. Usually their payment is by fees for special functions; some have stated salaries, varying greatly with the extent and importance of their duties.

CONSULATE, in France: supreme magistracy of the French republic; established after the revolution of the 18th Brumaire (q.v.), continuing till the coronation of Napoleon. On the sudden overthrow of the Directory with the constitution of the year III., the members of the Council of the Ancients and the Five Hundred, or rather those of them who approved of, or submitted to, that act of violence on the part of Bonaparte's grenadiers, appointed three consuls—Sièyes, Bonaparte, and Roger Ducos. This approach to a monarchical government was confirmed 1799, Dec. 13, by the constitution of the year VIII., by which Bonaparte was made first consul, with Cambacérès and Lebrun as second and third; each was elected for 10 years, and was re-eligible. The powers of the first consul were made almost absolute. He promulgated the laws, appointed or dismissed ministers, ambassadors, members of the council of state, military and naval officers, and all civil and criminal judges, except justices of peace and members of the court of cassation. His income was fixed at 500,000 francs, and that of his inferior colleagues at 150,000 francs each. Bonaparte took up his residence at the Tuileries, and held a splendid court. By resolutions of the senate, 1802, May, Bonaparte was re-elected for 10 additional years, and in Aug. was made first consul for life. In the appeal made to the nation, out of 3,577,259 votes, 3,568,885 were in favor of Bonaparte. The adulation of the senate and people now knew no limit. Nothing but the imperial name and insignia were wanting to complete the picture of absolutism, and these were supplied 1804, May 18, when Napoleon was made emperor.

CONSULT, v. *kõn-sũlt'* [F. *consulter*—from L. *consultare*, to consider maturely: It. *consultare*]: to consider maturely with another; to seek the opinion of another; to ask advice of; to seek for information in, as in books; to have regard to, in acting or judging. CONSULT'ING, imp. CONSULT'ED, pp. CONSUL'TER, n. one who. CON'SULTATION, n. -*tã'shũn* [F.—L.]: a meeting of two or more persons for deliberation on some matter. CONSUL'TATIVE, a. -*tã-tĩv* [F. *consultatif*]: having the privilege of consulting.

CONSUME, v. *kõn-sũm'* [F. *consumer*—from L. *consumere*, to consume—from *con*, *sũmẽrẽ*, to take: It. *consumare*]: to take away completely; to destroy by separating the parts; to eat or devour; to squander or waste: to spend idly, as time; to become wasted; to bring to utter ruin. CONSU'MING, imp. CONSUMED', pp. -*sũmd'*. CONSU'MER, n. one who. CONSU'MABLE, a. -*sũ'mã-bl*, that may be destroyed, wasted, or dissipated, as by fire. CONSUMPTION, n. *kõn-sũm'shũn* [L. *con*, *sumptus*, taken]: the act of consuming; a wasting away of the body by disease, generally understood of the lungs; the use of the products of industry. CONSUMPT, n. *kõn'sũmt*, the use of any product of industry, as the consumpt of grain, of tea, etc. CONSUMP'TIVE, a. -*sũm'tĩv*, wasting; exhausting; affected with disease of the lungs. CONSUMP'TIVELY, ad. -*lĩ*. CONSUMP'TIVENESS, n.—SYN. of 'consume': to destroy; absorb; waste; squander; lavish; expend; dissipate; swallow up; ingulf; decay; decline.

CONSUMMATE—CONSUMPTION.

CONSUMMATE, a. *kōn-sūm'māt* [L. *consummātūs*, brought about, accomplished—from *con*, *summa*, the summit, completion: F. *consommer*]: complete in the highest degree; perfect; finished: V. *kōn'sūm-māt* or *kōn-sūm'*-, to complete; to finish; to effect a purpose. CON'SUMMA'TING, imp. CON'SUMMA'TED, pp. CONSUM'MATELY, ad. -lī. CON'SUMMA'TION, n. -mā'shūn, completion; end of the present system of things; end of life.

CONSUMP'TION, in medical language, Phthisis, Tabes, Marasmus (q.v.), and more particularly Phthisis Pulmonalis or pulmonary C.: disease of great frequency and severity, which, in the civilized nations of Europe and America, produces from one-sixth to one-tenth of the total mortality in ordinary times. It is uncertain whether there is any part of the world, or any race of men, exempt from C.; this exemption having been at different times claimed for the inhabitants both of hot and of cold climates, as for India, Australia, Canada, Iceland, etc., but in most instances in consequence of imperfect knowledge of the facts. On the whole, C. appears to be one of those diseases that have a tendency to increase, unless great care be taken to remove conditions unfavorable to the public health, with the increased aggregation of the human family, and with that extended intercourse which is one of the consequences of an advanced civilization. Hence it is most frequent and most fatal in towns, and most of all in those near the great centres of intercourse; while in remote mountain districts, in islands cut off by a wide ocean from the general stream of human communication, it is stated to be, and probably is, comparatively rare. As a rule, however, the presence of this dreadful scourge has almost invariably been discovered to a greater or less extent, wherever the causes of mortality have been carefully examined under enlightened medical superintendence; and we are still very far from having acquired such an insight into its laws of diffusion, as to be able to deduce from them any exact doctrine as to its causation. C. affects peculiarly the young, especially those in the first period of adult life; though it is nearly certain that the seeds of the disease are commonly sown in the constitution in youth, and even in infancy. (See SCROFULA). Its relation to sex is variable, being apparently determined in part by the predominating occupations, and the habits of living, of the population. It is often observed to be plainly inherited from one or other parent, most frequently the mother; and it is one of the diseases which has been stated to be frequently developed as a consequence of the marriage of cousins or other near relatives, especially when the parental stock is itself tainted or not free from suspicion. In life-insurance, all these circumstances are usually carefully weighed by the medical officers of companies, as the grounds for admission or rejection of a candidate for insurance; and nothing is more certain to cause rejection, than a well-grounded suspicion of a consumptive tendency, either personal or derived from the parents, or shown in brothers and sisters. It is therefore a fair subject for consideration, on grounds of ordinary

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prudence, as well as on those of moral and religious obligation, whether those afflicted with this malady, or strongly predisposed to it, ought to enter into the married state, and to incur the probable afflictions and responsibilities connected with the maintenance of an unhealthy family. It has even been proposed to legislate on this subject; but sober-minded political economists will probably always consider that it is in vain to constrain by laws the strongest instincts of humanity, especially when the application of the law must depend upon such refined distinctions as in the present instance. The subject is clearly one for an appeal to the reason and conscience of individuals, rather than for an attempt at legal restriction.

Among the determining causes of C. in large populations, the best ascertained are those connected with overcrowding and bad ventilation, especially when associated with all the depressing influences inherent in poverty, or with a reckless and abandoned life. It is certain that much might be done to improve the public health in this respect, by more attention on the part of the employers of labor to the comfort and habits of those who are, in more senses than one, their 'hands,' and the sources of their prosperity. Often the workshops of tailors, printers, bakers, and other businesses carried on in close, ill-ventilated apartments, by large numbers of work-people, are nurseries of consumption. Cotton and linen factories also have been shown, when ill regulated, to be largely responsible for the death of their inmates from this disease. The finest regiments in the British army were proved, some years ago, by evidence before a royal commission, to be decimated by this disease in time of peace, in consequence, probably, of the bad ventilation and deficient comforts of the barracks. The cutlers and needle-grinders of Sheffield, England, appear to owe their notoriously short lives to C., brought on by the inhalation of metallic particles in the close and stifling atmosphere of their workshops. The stone-hewers of Edinburgh and Glasgow, and the colliers of the Lothians, were some years ago in a similar predicament, from the inhalation, in the one case of stone-dust, in the other of lamp-smoke not sufficiently diluted with air. And even agricultural laborers suffer from C. to an appalling extent when their dwellings are close and overcrowded. The marked improvement in the health of prisons has been shown to be to a considerable extent due to the diminished prevalence of C. among the inmates; which, again, is attributed, on good evidence, to improved ventilation of the cells, and increased facilities for wholesome exercise and occupation. In 1884 it was confidently affirmed on scientific authority that tubercular consumption is due to the presence in the lungs of specific bacteria (see BACTERIUM: GERM-THEORY); and antiseptic treatment, such as the inhalation of carbolic acid vapor, has accordingly been recommended; though it cannot be maintained that any discovery has as yet shown the causes of C. to be entirely removable.

The detection of the disease. and judging of its progress

and probable issue, are among the more difficult duties of the physician. C. often escapes attention in its early stages, yet not so much from the absolute difficulty of its detection, as from the insidiousness of its invasion, and the small alarm which its early symptoms excite in the mind of the sufferer, and even of his friends, when much occupied or not very observant. Whenever a young person appears to lose flesh and strength without known cause; when the color changes much from day to day, and from hour to hour; when shiverings are complained of, or even a sense of too great chilliness, alternated by flushings and an oppressive warmth, or too copious perspiration; when with these symptoms there is cough, however slight, or pains between the shoulders and about the shoulder-blades, or below the collar-bones; when there is an occasional tendency to spit up small quantities of blood from the chest; or when the patient is subject to repeated attacks of catarrh (q.v.); or when the bowels are habitually loose or very irregular; or when with any one of these symptoms in the female there is diminution or suppression of the usual periodic discharges, it is not too soon to apprehend the occurrence of C., and to place the patient under medical advice. In some instances the alarm may appear groundless, and health may rapidly return under appropriate treatment; but a far greater danger is that these symptoms, being neglected, may prove precursors of serious disease, and that the first suspicion of C. may arise only after irreparable mischief. In general terms, it may be said that during the period of adolescence—i.e., before the body has assumed its full development in regard to strength and weight—no considerable check to its advance in these respects ought to pass unnoticed, more especially if attended with habitual feverishness, cough, or other symptoms of impaired health.

Attempts have been made to show that a peculiar habit of body or physical conformation, apart from disordered health, is to be regarded as predisposing to C.; and this has been called the phthisical diathesis (q.v.); but little or no dependence can be placed on any such indications, for C. unquestionably occurs with nearly equal frequency in all the physiological varieties of the human race. The physician will often discover its lurking germs, even when active symptoms have been long absent, or have recurred after years of comparatively good health, by the effect of former disease upon the development of the frame in the period of childhood. In such cases, the stethoscope (q.v.), and other means of minutely examining the chest, will sometimes detect an unsuspected attack of pulmonary C. In a few cases the disease begins otherwise than as above noted, the form being that of an acute attack, such as fever or inflammation of the chest; but such cases are of course at once detected.

The further medical history of C. is very complicated. Generally the progress of the disease is marked by the following symptoms: progressive emaciation, with habitual fever and frequent sweating at night; cough and pains in the chest, with expectoration of mucus, and, in the end,

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of purulent matter in large quantities; diarrhœa (q.v.), and sometimes obstinate vomiting, oftener failure of the appetite, with occasional sickness; gradually increasing weakness and indisposition for active exertion, often with more or less difficulty of breathing on exertion, but rarely with extreme distress or pain of any kind. This remarkable freedom from acute suffering is probably one reason of the self-deception usually attributed to consumptive persons, by which they are led to believe in their curability up to a very advanced stage of the disorder.

The degree to which C. is curable has been a fruitful subject of discussion of late years. Properly speaking, there never has been any doubt that cases marked by all the symptoms of C. occasionally and somewhat frequently, in the early stages, recover; but it has been argued that these were probably not genuine instances of what is now alone technically called C.—viz., tubercular disease. In France, where morbid anatomy was extensively cultivated in the beginning of the present c., the incurability of the tubercular form of C. was a general doctrine of the schools till the time of Laennec (q.v.), who, by multiplied instances, and careful observations on the dead body, showed beyond all question the occasional arrest even of advanced C., and the frequent cure of it in the early stages. For the appearances in the lungs and other organs of persons affected with C., see TUBERCLE.

The treatment of C. is a very complicated subject, and much misunderstood, due partly to the misrepresentations of quacks, and partly to the great demand for palliative remedies on the part of patients and their friends, tending to obscure the true principles of treatment even to the mind of the physician. It is, however, now well ascertained that the greater part of the cure consists in hygienic measures—i.e., the regulation of the mode of living, the occupation, the diet, the clothing, the food, the hours of repose, etc., of the consumptive, and particularly in the abundant supply of pure air if this can be made genial to the patient—and all treatment by drugs is regarded by well-informed physicians as subordinate. A life in the open air to a considerable extent, and in a climate which admits of the enjoyment of such a life even in winter, is the best restorative in cases of insipient C.; yet too much may be sacrificed to the desire of obtaining these advantages, if a genial climate is sought at the expense of the comforts of home, or with the effect of producing anxiety of mind, or exhaustion of body by a long and fatiguing journey. Moreover, to many men a regular occupation is really a necessity in more senses than one; and to break up all the associations of habit in a person debilitated by disease, and not capable of seeking new sources of excitement, is to poison the springs of enjoyment, and to shorten life by rendering it a burden. Many consumptives have been sent abroad only to die, and in all probability to die more miserably, and at an earlier period, than if they had remained at home. On the other hand, the favoring influences of climate must not be rejected, when they can be obtained in accordance with the

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patient's previously formed habits, and with due regard to his means of occupation and prospects of eventual cure. A varied and wholesome, but light and unstimulating, diet, including abundant dairy produce; flannel coverings next the skin, and clothing warm but not oppressive; a well-ventilated sleeping-apartment, with a moderate fire in cold weather; bathing in tepid water; the use of a respirator or of a light woollen covering for the mouth and nose in excessively cold weather; avoidance of late hours, crowded rooms, and every kind of dissipation; avoidance also of draughts of cold air, and of sitting in damp clothes or with damp feet; these are important in the ordinary regulation of the life of a consumptive patient. The use of cod-liver oil has been very popular of late years in the treatment of C.; but it is reasonably doubted whether the reputation of this remedy be due to its powers as a medicine or simply as a fattening food. Occasional small opiates, and other medicines to arrest irritating cough and subdue feverishness, and in special cases the treatment proper to the complications, such as diarrhœa (q.v.) and breathlessness, are generally admitted as useful adjuncts if used only under medical advice. See Ancell on Tuberculosis—on Phthisis (translated for the Sydenham Society).

Consumption in the Lower Animals—C. rarely occurs in horses, the health-depressing influences which produce it in man and other animals inducing in them glanders (q.v.) and farcy (q.v.). It is rare also among dogs, but is common in oxen and sheep, and still more so in pigs. It is one of the chief causes of death among the apes and other denizens of zoological gardens. It is produced, as in man, by overcrowding, damp lodging, bad food, neglected colds, and the like debilitating causes. It is notoriously hereditary; is frequently developed by breeding from parents nearly related to each other; and affects animals mostly of faulty conformation; prevailing, for example, among cows with small thin necks, narrow carcasses, hollow flanks, and dirty, unhealthy-looking skins. Such animals are, moreover, subject to dysentery; indeed, the two diseases depend, in cattle, on the same tuberculous or scrofulous state of system; they occur in the same stocks, and often replace each other in different generations. In all animals, the well-marked symptoms are very analogous. In cows, appetite and rumination become irregular; the coat stares, the skin is dry, and firmly adherent to the ribs; the animal is dull, loses flesh, is sometimes feverish, and if in milk, the secretion is diminished, blue, and poor; a tickling cough is easily excited; and diarrhœa is readily set up, and once established, is arrested with difficulty. As the disease advances, the lymphatic glands about the neck and elsewhere are enlarged; the fever, cough, and debility increase; the pulse is weak and quick; the excretions are foetid, and purulent discharges trickle from the eyes and nostrils. C. in the lower animals is certainly curable, especially in the earlier stages. The treatment consists mainly in attention to regimen and diet, with careful protection from damp, cold, and other causes inimical to

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health. The food should be good, easily digested, and nourishing, and the capricious appetite coaxed by frequent variety. For cows, linseed or other convenient oleaginous articles should be freely used. Irregularity of the bowels may be remedied by an occasional dose of treacle, or by a small quantity of linseed or of castor oil; but active purgatives, and, indeed, all powerful and irritating drugs, must be avoided. A few simple tonics may sometimes be advisable. C. might be greatly limited by rejecting, for breeding purposes, all animals having any tuberculous taint, and by greater attention to the feeding, shelter, and warmth of young stock. Neglect of these latter precautions is the cause of its unusual prevalence among the young cattle of regions exposed to harsh damp winds. Its connection with overcrowding and faulty sanitary arrangements, is evident from its frequent occurrence among cows that have for several months been inmates of badly-managed town-dairies.

CONSUMPTION, in Political Economy: the converse of Production. The word is of very frequent use by political economists, but it has never had a definite meaning attached to it. It may be generally said that everything produced or made by human labor is to be consumed, or to cease in its turn to exist. But there is not only a great difference in the rate at which things are consumed—some going rapidly, while others last for centuries—but there is a C. which is annihilation or loss, and a C. which is in reality gain, or an addition to the wealth of the world. Food is an article of production destined to be immediately consumed, but the food of the working-man sustains him while he is producing more than he consumes. A thousand dollars spent in improving two-hundred acres of land, or in building a house, produces something which lasts for many years ere it is consumed or rendered valueless. The same sum spent in raising a wheat crop will seem to be immediately consumed, but it may have in reality been laid out more beneficially than the other, through the process of reproduction. If the thousand dollars laid out on land increases the value of that land so as to make it worth eleven hundred dollars, while the wheat raised by the expenditure of the other thousand is sold for fifteen hundred dollars, there is less C. in the latter expenditure than the former. If the thousand dollars, on the other hand, be expended on squibs and sky-rockets, the C. is greater still. The makers of the squibs and sky-rockets no doubt live, but it would tend less to C. if they lived by making something that would last.

CONSUMPTION, CONSUMPT, CONSUMPTIVE: see under CONSUME.

CONTABESCENCE, n. *kõn'tă-bēs'sēns* [L. *contabescens*, wasting away gradually—from *con. tabesco*, I waste or pine]: in *bot.*, a defective condition of the stamens.

CONTACT, n. *kõn'tăkt* [F. *contact*—from L. *contactus*, touch, contact—from *con, tactus*, touched: It. *contatto*]: the touching or close union of bodies; touch. In *geometry*, two

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lines, one of which at least is curved, are said to be in C. when they have a common point from which they recede, in such a way that the deflection of the one from the other will, if a sufficient by small departure be taken, become as small a fraction as we please of that departure. A complete discussion of the nature and order of C. can be obtained only through the differential calculus.

CONTAGION, n. *kǒn-tā'jǔn* [F. *contagion*—from L. *contagionem*, contact, touch—from *con*, *tangĕrĕ*, to touch: It. *contagione*]: the communication of a disease by contact or touch; the subtle or virulent matter proceeding from the bodies of diseased persons imparting the same diseases to others—the latter strictly applies to *infection*, and the former to *contagion*; that which propagates evil or mischief. CONTA'GIOUS, a. *-jūs*, producing disease by contact or near approach; containing that which may be propagated, as mischief or some affection of the mind. CONTA'GIOUSLY, ad. *-lĭ*. CONTA'GIOUSNESS, n. CONTA'GIONIST, n. one who believes in the contagious character of certain diseases.

CONTA'GION: communication of disease from the sick to the healthy, either by direct contact of a part affected with the disease, or through the medium of the excretions and exhalations of the body. Some authorities have employed the term *infection* (q.v.) to designate this latter method of communication, and have correspondingly limited the meaning of the word C.; but this refinement seems not practically important. The applying of 'infection' to denote the effect of subtle aërial exhalations from a diseased body may be classed as the most reasonable part of the distinction.

CONTA'GIOUS DISEASES (OF WOMEN), ACTS CONCERNING: acts passed in the Brit. parliament, 1865, '67, and '68 for the seaport and military towns; authorizing a justice of the peace, on the sworn information of a supt. of police that a woman within the indicated area is a common prostitute suffering from venereal disease, to cause her to be examined, and if necessary detained in a hospital from three to nine months. Imprisonment was the penalty for refusing to attend for examination. These acts have always been strongly disapproved of by a large section of the public, being denounced as demoralizing and degrading; while they have been defended on purely sanitary grounds. A select committee of the house of commons on the effect of the acts issued an elaborate report 1882. In the debate on supply, 1883, Mr. Stansfeld's motion, that these acts had neither checked disease nor promoted morality, was carried by a large majority; the vote of supply accordingly was lost. The administration of the acts was then suspended; and the acts themselves were repealed 1886.

CONTAGIUM, n. *kǒn-tā'jĭ-ŭm*, CONTA'GIA, n. plu. *jĭ-a* [L. *contagĭŭm*, a touching, contact—from *con*, together: *tango*, I touch (see CONTAGION)]: the contraction of disease by contact with a diseased person, or by the inhalation or contact of the germs coming from such a body.

CONTAIN—CONTEMN.

CONTAIN, v. *kôn-tân'* [OF. *contenir*—from L. *continēre*, to hold or keep together—from *con*, *tenēre*, to hold]: to be able to hold; to have capacity; to comprehend; to hold within limits; in *OE.*, to constrain; to confine. **CONTAIN'ING**, imp. **CONTAINED'**, pp. *-tānd'*. **CONTAIN'ABLE**, a. *-ā-bl*, that may be contained.—**SYN.** of 'contain': to hold; comprise; comprehend; include; embrace; involve; imply; inclose.

CONTAMINATE, v. *kôn-tām'î-nāt* [L. *contaminātus*, defiled: It. *contaminare*: F. *contaminer*]: to pollute or defile; to render impure; to sully; to taint: **ADJ.** corrupt by base mixture. **CONTAM'INATING**, imp. **CONTAM'INATED**, pp. **CONTAM'INA'TION**, n. *-nā'shŭn*, pollution; defilement. **CONTAM'INATIVE**, a. *-nā-tĭv*, tending to make impure.—**SYN.** of 'contaminate': to taint; corrupt; sully; stain; tarnish.

CONTANGO, n. *kôn-tāng'gō* [a probable corruption of **CONTINGENT**: Sp. *contante*, ready money: It. *contante*, counting or reckoning, ready money]: a sum of money, or a percentage, paid for accommodating a buyer in carrying an engagement to pay money for speculative purchases of stock, over to next account-day—a stock exchange term.

CONTANKEROUS, a. *kôn-tāng'kēr-ŭs* [originally a slang word]: querulous; very contentious; perverse; more frequently spelled *cantankerous*.

CONTARINI, *kon-tā-rē'nē*: noble family in Venice, one of the 12 that elected the first Doge. Between 1041 and 1674, seven Doges were furnished by this family, and several of its members were men of note.

AMBROGIO C. was sent as ambassador from Venice to Persia, 1473–77, and gave an account of his travels in his *Viaggi fatti da Vinetia, alla Tana, in Persia, in India, et in Constantinopoli* (Ven. 1487).

CARDINAL GASPARO C. distinguished himself as Venetian ambassador at the court of Charles V., and was papal legate at the diet of Ratisbon, 1541, where he showed great moderation.

GIOVANNI C., born 1549, was one of the most famous painters of his time; he painted the Resurrection, in San Franeiseo di Paolo's, in Venice.

VINCENZO C., born 1577, had acquired, at the age of 26, such a fame for learning, that the magistrates of Padua, in order to secure him for their university, established an extraordinary professorship of Greek and Latin eloquence.

CONTECK, n. *kôn'tĕk*: in *OE.*, contest or contention; quarrel.

CONTEMN, v. *kôn-tĕm'* [L. *contemnĕre*, to value little—from *con*, *temnĕre*, to despise: It. *contennere*]: to look upon as mean and despicable; to despise; to treat with scorn; to reject with disdain. **CONTEMN'ING**, imp. **CONTEMNED'**, pp. *-tĕmd'*. **CONTEMN'ER**, n. *-tĕm'ēr*, one who.—**SYN.** of 'contemn': to despise; scorn; disdain; spurn; defy; slight; neglect; overlook; underrate.

CONTEMPLATE—CONTEMPT OF CONGRESS.

CONTEMPLATE, v. *kõn-těm'plăt* [L. *contemplātus*, viewed attentively—from *con*, *templum*, a place open to observation on every side: It. *contemplare*; F. *contempler*, to contemplate]: to view with continued attention; to study; to meditate on or ponder over; to intend or design; to muse. CONTEMPLATING, imp. CONTEMPLATED, pp. CONTEMPLATOR, n. *-plăt'ēr*, one who. CONTEMPLATIST, n. *-plăt'ist*, one who. CONTEMPLATION, n. *-plăt'shŭn*, study; meditation; the act of considering anything attentively. CONTEMPLATIVE, a. *-plăt'iv*, given to study and reflection; thoughtful. CONTEMPLATIVELY, ad. *-lĭ*. CONTEMPLATIVENESS, n.—SYN. of 'contemplate': to regard; observe; perceive; scan; eye; view; look; see; behold; reflect; consider; regard; ponder; dwell on; intend; purpose; plan; design.

CONTEMPORANEOUS, a. *kõn-těm'põ-ră'nĭ-ŭs*, or CONTEMPORANEOUS, a. *kõ* [L. *contemporānĕŭs*, a contemporary—from *con*, *tempus*, time: *tempōris*, of time: F. *contemporain*, contemporary]: living or being at the same time. CONTEMPORANEOUSLY, ad. *-lĭ*. CONTEMPORANEOUSNESS, n., or CONTEMPORANEITY, n. *-põ-ră'nĕ'ĭ-tĭ*, state of being contemporaneous. CONTEMPORARY, a. *-põ-ră-rĭ*, or COTEMPORARY, a. being or existing at the same time: N. one who lives at the same time with another. *Note*.—In the spelling of these words, usage is now in favor of *con* rather than *co*.

CONTEMPT, n. *kõn-těm't'* [OF. *contempt*, scorn—from L. *contemptus*, despised—from *con*, *temnĕrĕ*, to despise]: the act of despising; the state of being despised; the act of viewing or treating as utterly mean, vile, and worthless; disobedience or disrespect to a court, or to a constituted authority; disgrace; shame. CONTEMPTIBLE, a. *-tĕm'tĭ-bl*, worthy of scorn or disdain; mean; vile; despicable. CONTEMPTIBLY, ad. *-tĭ-blĭ*. CONTEMPTIBLENESS, n. *-bl-nĕs*, state of being despised; meanness; vileness. CONTEMPTUOUS, a. *-tĕm'tŭ-ŭs*, showing or expressing contempt or disdain; haughty; insolent. CONTEMPTUOUSLY, ad. *-lĭ*. CONTEMPTUOUSNESS, n. CONTEMPT OF COURT, improper or insulting conduct to a judge in court, or to court officials; a refusal to obey the orders of the court.—SYN. of 'contempt': scorn; disdain; neglect; disregard; slight; mockery; derision; contumely;—of 'contemptible': despicable; abject; piteous; pitiful; pitiable; contemptuous; vile; mean; base; paltry; sorry; worthless, scurrilous;—of 'contemptuous': disdainful; scornful; contumelious; abusive; insulting; cavalier; supercilious; fastidious.

CONTEMPT', against the ecclesiastical supremacy of the Brit. crown: assuming local ecclesiastical titles under the authority of the court of Rome. It is forbidden under penalties by 10 Geo. IV. c. 7, s. 24, and by 14 and 15 Vict. c. 60.

CONTEMPT, against the title of the Brit. sovereign: see PRÆMUNIRE.

CONTEMPT OF CONGRESS: various acts of resistance or obstruction of the proceedings of either house of

CONTEMPT OF COURT—CONTENT.

the U. S. congress, or of violation of its rights and dignities, or disobedience of its mandates—the offense being direct or personal, and done at least constructively before its face. Against such offense, congress has power similar to that of a court to vindicate its authority and dignity.

CONTEMPT OF COURT: offense in various form; such as resisting the process of a court; non-payment of costs; obstructing the proceedings; striking, or threatening a judge by drawing a weapon; some cases of misconduct of ministerial officers, or malpractice of attorneys. There is probably no country in which courts of law are not furnished with the means of vindicating their authority and preserving their dignity by calling in the aid of the executive, in certain circumstances, without the formalities usually attending a trial and sentence. Of this the simplest instance is where a judge orders the police to enforce silence, or to clear the court. Contempts done in the face of the court, by directly obstructing its proceedings, may be instantly visited with commitment and fine: see **JUDGE**. In the United States, the press takes great license in comments on cases pending in courts; this usually passes unobserved by judges, yet must be deemed to be carried often to a reprehensible degree.

CONTEMPT OF PARLIAMENT: see **PARLIAMENT**.

CONTEND, v. *kõn-těnd'* [F. *contendre*—from L. *contendĕre*, to strain violently—from *con*, *tendĕre*, to stretch: It. *contendere* — *lit.*, to strain or struggle violently]: to strive; to struggle in opposition; to dispute earnestly; to debate; to strive to obtain; to quarrel. **CONTENDING**, imp. **CONTEND'ED**, pp. **CONTEN'DER**, n. one who. **CONTENTION**, n. *-těn'shŭn* [F. *contention* —from L. *contentiōnem*, exertion, effort—from L. *tentus*, stretched]: strife; violent struggle or effort to obtain something; quarrel; strife in words. **CONTENTIOUS**, a. *-shŭs*, quarrelsome; given to angry debate; litigious. **CONTENTIOUSLY**, ad. *-lĭ*. **CONTENTIOUSNESS**, n. proneness to quarrelling; turbulence.—**SYN.** of 'contend': to strive; vie; struggle; endeavor; debate; argue; dispute; discuss; deliberate; oppose; emulate; contest; litigate;—of 'contention': strife; discord; contest; litigation; controversy; quarrel; emulation; competition; debate; disagreement; variance; dissension; feud; conflict;—of 'contentious': pugnacious; quarrelsome; wrangling; peevish; perverse.

CONTENT, a. *kõn-těnt'* [F. *content*—from L. *contentus*, contented, satisfied —from *con*, *tentus*, held, kept within limits: It. *contento*]: *literally*, held or contained within limits; quiet; having a mind easy or satisfied: N. rest or quietness of mind; satisfaction and ease of mind; acquiescence: V. to make quiet; to satisfy the mind; to please; to gratify; **CONTENTING**, imp. **CONTENT'ED**, pp.: **ADJ.** satisfied; not repining. **CONTENT'EDLY**, ad. *-lĭ*, in a quiet and satisfied manner. **CONTENT'EDNESS**, n. state of being contented. **CONTENT'MENT**, n. *-mĕnt*, quiet; satisfaction of mind; acquiescence. **CONTENT'LESS**, a. dissatisfied. **CONTENT'** and **NON-CONTENT'**, words used by the lords in

their house of parliament to express—the former approval, and the latter disapproval,—the former being equivalent to *ay* or *yes*, and the latter *no*. CONTENTS, n. plu. *kõn-těnts'* or *kõn'těnts*, that which is held or contained within a limit; the heads of a book; an index; measure or capacity.

CONTENTION, CONTENTIOUS, etc.: see under **CONTEND**.

CONTERMINOUS, a., or COTERMINOUS, a. *kõn- or kō-tēr'mĩ-nũs* [L. *conterminus*, bordering upon—from *con*, *terminus*, a limit or border]: bordering upon; touching at the boundary; contiguous. CONTER'MINAL, a. bordering upon.

CONTEST, v. *kõn-těst'* [F. *contester*—from L. *contestāri*, to call to witness—from *con*, *testis*, a witness: It *contestare*—*lit.*, to call to witness in opposition to]: to dispute; to struggle or strive earnestly; to litigate; to oppose; to emulate: N. *kõn'těst*, struggle; conflict; dispute. CONTEST'ING, imp. CONTEST'ED, pp.: ADJ. disputed. CONTESTABLE, a. *-těs'tā-bl*, that may be called in question or disputed. CON'TESTA'TION, n. *-tā'shũn*, the act of contesting; joint testimony. CONTEST'INGLY, ad. *-lĩ*.—SYN. of 'contest, v.': to contend; dispute; argue; controvert; debate; litigate; oppose; — of 'contest, n.': conflict; encounter; battle; altercation; strife; disagreement; combat; shock; debate; controversy; difference.

CONTEXT, n. *kõn'těkst* [F. *contexte*—from L. *contextus*, connection—from *con*, *textus*, woven: It *contesto*—*lit.*, that which is woven together]: the parts in a discourse or book immediately preceding or following the sentence quoted. CONTEX'TURE, n. *-těks'tūr* [F.]: the weaving together of parts; the composition of the parts of anything; the character of the component parts of a body; constitution. CONTEX'TURAL, a. *-tũ-rāl*, pertaining to the contexture. CONTEX'TURED, a. *-tũrd*, woven.

CONTI, *kon'tē*, HOUSE OF: branch of the House of Condé (q.v.).

ARMAND DE BOURBON, first Prince of C.: 1629–1666; b. Paris; bro. of the great Condé. He took his title from the little town of Conti, five leagues from Amiens. Of a feeble constitution and deformed shape, he was early destined for the priesthood, but the fame of his brother inspired him with military ardor. He commenced his martial career as the opponent of his brother, but soon entered into alliance with him. After 1657. he retired from the world, and gave himself up to devotion. He died at Pezenas.

LOUIS ARMAND, Prince de Conti, Comte de Pezenas, and peer of France: 1661–85; eldest son of Armand de Bourbon. After a short career in arms, he died of small-pox at Fontainebleau. He left no children, and was succeeded by his brother, François Louis.

FRANÇOIS LOUIS, Prince de la Roche-sur-Yon et de Conti: 1664–1709, Feb. 22; bro. of Louis Armand. This was the most remarkable member of the family. Educated under the eyes of the great Condé, he early conceived a pas-

CONTIGUITY--CONTINENT.

sion for bearing arms His first campaign was made in Hungary, where he distinguished himself; but having fallen into disgrace with the court, he was banished to Chantilly, with strict orders not to leave it. The great Condé, before his death, persuaded Louis XIV. to pardon him. Subsequently, C. served under the Duc de Luxembourg, who was warmly attached to him, and took a brilliant part in the victories of Steinkirk and Neerwinden. In 1697, he narrowly escaped being made king of Poland. On his return to France, he was still coldly received by Louis, who, however, was at last forced by disaster to employ him. He received the command of the army of Flanders in 1709, but died in the same year. Massillon pronounced his funeral oration. Saint-Simon, in his celebrated *Mémoires*, thus speaks of him: 'He was the delight of armies, the divinity of the people, the hero of officers, the darling of parliament, and the admiration of the most learned savans.'

LOUIS FRANÇOIS JOSEPH: 1734-1807; last member of the House of C.; d. in Spain.

CONTIGUITY, n. *kõn'tĩ-gũ'ĩ-tĩ* [L. *contigũũs*, very near—from *con*, *tango*, I touch: F. *contigu*, contiguous; *contiguité*, contiguity]: actual contact of bodies; nearness of situation or place. CONTIG'UOUS, a. -*tĩg'ũ-ũs*, touching; close together; neighboring; adjoining; adjacent. CONTIG'UOUSLY, ad. -*lĩ*. CONTIG'UOUSNESS, n. -*ũs-něs*, state of contact; close union.

CONTINENT, a. *kõn'tĩ-něnt* [F. *continent*, continent—from L. *contĩnen tem*, that restrains passions—from *con*, *tenens*; holding: It. *continente*]: restrained in passions; moderate; temperate; abstemious in lawful pleasures; in *OE.*, opposing; restraining. CON'TINENTLY, ad. -*lĩ*. CON'TINENCE, n. -*něns*, or CON'TINENCY, n. -*něn-sĩ* [F. *continence*]: restraint imposed upon desires and passions—applied to men, as *chastity* to women.

CONTINENT, n. *kõn'tĩ-něnt* [F. *continent*, the mainland—from L. *contĩnen'tem*, the mainland—from *con*, *tenens*, holding: It. *continente*—*lit.*, that which contains anything]: a large extent of land containing many countries; the mainland; the countries of the mainland of Europe, especially as distinguished from the British Islands; in *OE.*, that which contains. CON'TINEN'TAL, a. -*tũl*, pertaining to a continent; pertaining to the countries of the mainland of Europe.—The Anglo-American colonies at the beginning of the revolutionary war assumed the term Continental as opposed to Provincial, calling their first representative assembly the Continental congress. It was then their hope that Canada would join them, so making good the name.

CON'TINENT: mainland, one of the extended masses of land as distinguished from the minor portions. Though no precise distinction has ever been drawn between a C. and an island, the usage of language has generally recognized five great masses or divisions of land as continents—Europe, Asia, Africa, America, and Australia. Europe, Asia, and Africa form properly one great C., the only one known to the ancients; the second was discovered by Columbus; and

CONTINENTAL SYSTEM.

the third, Australia, sometimes called an island, became known at the antipodes of Europe in the beginning of the 17th c. The existence of an antarctic C. has not yet been satisfactorily established. The apparent irregularity in the shape of the continents disappears on nearer examination, and certain uniformities become apparent, the causes of which have long been subjects of speculation. Bacon remarked, that the continents were pointed toward the south polar sea, and presented broad conformations toward the north. J. R. Forster followed up this remark by the generalization, that these southern points are the ends of mountain-ranges, which are continued northward; and that at the e. side of these promontories there are always larger or smaller archipelagos of islands, while the w. side of the continents is indented with large bays.

Not only have attempts been made to reduce the horizontal outlines of the continents to rule, but their vertical dimensions have been examined with the same view. Observation had been confined to ascertaining the heights of individual summits, until Alexander von Humboldt enriched physical geography with a new numerical element, by endeavoring to determine the mean height of continents—i.e., the elevation of the centre of gravity of their mass. He estimated the mean height of Europe at 103 toises (a toise is about 6 ft. 6 in.), of North America at 117, of South America at 177, and of Asia at 180 toises. Laplace had calculated the mean height of all the continents at 1,000 metres; Humboldt found this too great by two-thirds, and gives the height of the centre of gravity of all the continents, except Africa, above the sea-level at 307 metres, or 1,007 feet.

CONTINENTAL SYSTEM: name given to Napoleon's plan for shutting England out from all connection with the continent of Europe, and thus compelling her at least to acknowledge the maritime law established at the peace of Utrecht: see **NEUTRALITY**. This system began with Napoleon's famous 'Berlin Decree' of 1806, Nov. 21, which declared the British islands in a state of blockade, and prohibited all commerce and correspondence with them; every Englishman found in a country occupied by French troops or by their allies was declared a prisoner of war; all merchandise belonging to an Englishman, lawful prize; and all trade in English goods entirely prohibited. No ship coming direct from England, or from a British colony, was allowed to enter any port; and any ship seeking by false declarations to evade the regulation, was confiscated with its cargo as if British property.

England was not long in making reprisals. By an 'order in council,' issued 1807, Jan. 7, all neutral vessels were prohibited from entering any port belonging to France or her allies, or under her control. Every neutral vessel violating this order was to be confiscated with its cargo. Still more oppressive for neutral commerce was a second order in council, 1807, Nov. 11, by which all harbors and places of France, and her allies in Europe and the colonies, as well as of every country with which England was at war, and

CONTINGENT—CONTINUE.

from which the English flag was excluded, were placed under the same restrictions as if strictly blockaded. These orders were followed by reprisals on the French side. By the Milan Decree, 1807, Dec. 17, strengthened by a second, 1808, Jan. 11, from the Tuileries, any vessel, of whatever nation, that had been searched by an English ship, had submitted to be sent on a voyage to England, or paid any duty to the English government, was to be declared *denationalized*, and treated as English. In order the more effectually to annihilate English commerce, there appeared, 1810, Aug. 3, the tariff of Trianon for colonial goods; this was extended by a decree Sep. 12, and on Oct. 18, followed the Decree of Fontainebleau, ordering the burning of all English goods; an order which was to be carried out with more or less modification in all countries connected with France.

The consequence of the C. S. was undoubtedly the springing up on the continent of many branches of manufacture to the prejudice of England; on the other hand, the price of foreign produce rose to an extraordinary height on the continent of Europe, enabling a few commercial men to make fortunes, but sensibly affecting the daily comfort of the middle classes. This violent interruption of human intercourse and sociability was an unnatural condition, which could not last long, and could serve only to strengthen the hatred of Europe against French tyranny. Accordingly, with the breaking up of Napoleon's power, the C. S. fell to the ground. See ORDERS IN COUNCIL.

CONTINGENT a. *kôn-tîn'jěnt* [F. *contingent*—from L. *contingens* or *contingen'tem*, touching—from *con*, *tangĕrĕ*, to touch: It. *contingere*, to happen, to fall out—*lit.*, touching]: happening or falling out by chance; depending on something else; uncertain; incidental; casual: N. a thing which happens by chance; a quota; a suitable share; proportion; a fortuitous event; in the *army*, applied to the sum paid monthly to each captain of a troop, company, etc., to defray incidental charges, as stationery, care of arms, and the like; quota of troops furnished to the common army by each member of an alliance or confederation of states: the word was applied especially to the proportions contributed by the several German states to the army of the confederation, which has given place to the empire: see GERMANY. **CONTIN'GENCE**, n. *-jěns*, or **CONTIN'GENCY**, n. *-jěn-sĭ* [F. *contingence*]: the quality of being contingent; an unforeseen event; an accidental possibility; casualty; in *law*, an event, the occurrence of which, though uncertain, is sufficiently probable to be provided for. **CONTIN'GENTLY**, ad. *-jěnt-lĭ*. accidentally; without design.—**SYN.** of 'contingent. a.': casual; accidental; incidental; occasional; fortuitous; chance.

CONTINUAL, CONTINUANCE, etc.: see under **CONTINUE**.

CONTINUE, v. *kôn-tîn'ũ* [F. *continuer*—from L. *continũrĕ*, to join one thing to another in uninterrupted succession—from *con*, *tenĕrĕ*, to hold: It. *continuare*—*lit.*, to join one thing to another in uninterrupted succession]: to extend

CONTINUED FRACTIONS—CONTOUR.

from one thing to another; to abide or remain in a state or place; to endure; to protract; to persevere in. CONTIN'U-ING, imp: ADJ. permanent; abiding. CONTIN'UED, pp. -*ūd*: ADJ. uninterrupted. CONTIN'UER, n. -*ū-ēr*, one who. CONTIN'UATOR, n. -*ā-tēr*, one who continues or keeps up a series or succession. CONTIN'UABLE, a. -*ū-ā-bl*, capable of being continued. CONTIN'UEDLY, ad. -*ūd-lŷ*, without ceasing. CONTIN'UOUS, a. -*ū-ūs* [F. *continu*—from L. *continūus*, continuous]: uninterrupted; joined without intervening space; in *bot.*, without joints or articulations. CONTIN'UOUSLY, ad. -*lŷ*. CON'TINU'ITY, n. -*nū'ŷ-tŷ*, uninterrupted connection; close union of parts; cohesion. LAW OF CONTINUITY, Leibnitz's principle that nothing can pass from one state into another without passing through all the states intermediate. CONTIN'U-AL, a. -*ū-āl*, without interruption or cessation; unceasing; perpetual; constant. CONTIN'UALLY, ad. -*lŷ*, without pause or interruption. CONTIN'UANCE, n. -*āns*, duration; perseverance; residence; uninterrupted succession. CONTIN'UA-TION, n. -*ū-ā'shŷn* [F.—L.]: uninterrupted succession; carrying on to a further point, as a line or a story. CONTIN'U-ATIVE, a. -*ū-ā-tŷv*, that continues: N. that which continues or endures. CONTIN'UATE, a. -*ū-āt*, in *OE.*, uninterrupted; unbroken. CONTIN'UATELY, ad. without interruption. CONTINUOUS BEARINGS, sleepers laid longitudinally under the metals of a railway, instead of across the way. CONTINU-
OUS RAIL, a rail made in sections with a longitudinal vertical joint, and the sections laid together, breaking joint.—SYN. of 'continue': to persevere; persist; abide; stay; remain; endure; last; prolong; protract;—of 'continual': constant; continuous; incessant; uninterrupted; unintermitted; lasting; abiding.

CONTIN'UED FRACTIONS: see FRACTIONS.

CONTOR'NIATE, *kŏn-tawr'nŷ-āt* [see CONTOUR]: term applied to a class of antique medals, which have a deep line cut round the edge, like a furrow.

CONTORT, v. *kŏn-tŏrt'* [L. *contortus*, intricate, obscure—from *con*, *tortus*, twisted: It. *contorto*]: to twist together; to pull awry; to writhe. CONTORT'ING, imp. CONTORT'ED, pp.: ADJ. twisted together; twisted back upon itself; arranged so as to overlap each other. CONTOR'TION, n. -*tŏr'shŷn*, [F.—L.]: a twist or twisting; a wresting; a wry motion; a wresting or twisting of a part of the body out of its natural place, as the muscles of the face or a limb. CONTORTIVE, a. *kŏn-tŏr'tŷv*, applied to the parts of a single whorl placed in a circle, each exhibiting a torsion of its axis.

CONTORT'ED STRATA, in Geol.: beds which are bent and twisted, so that in a section their edges would be seen to follow crooked and curved lines, often doubling back and running altogether out of their former course: for a specimen, see APPALACHIANS.

CONTORTUPLICATE, a. *kŏn'tŏr-tŷ'plŷ kāt* [L. *contortus*, twisted; *plŷcātus*, folded]: in *bot.*, turned back on itself; twisted and folded in plaits.

CONTOUR, n. *kŏn-tŏr'* [F. *contour*; It. *contorno*, circuit,

CONTRA—CONTRABAND OF WAR.

outline—from L. *con*, and F. *tour*; It. *torno*; L. *tornus*; Gr. *tornos*, a lathe]: the outline; the line that bounds or defines a figure or surface. CONTOUR-LINES, lines on a map passing through all points at the same altitude—for example, at 100 ft., 200 ft., etc.

CONTRA, a. or ad. *kõn'tră* [L.]: on the other hand; on the contrary; opposite; a common prefix, with its form *counter*, signifying against; in opposition; in *music*, opposite (lower), and applied to the alto and tenor parts when they form the lowest part in the harmony. When a part lower than the usual base is employed, it is called *contra-basso*. In organ-building, *contra* indicates that a certain stop, or register of pipes, is an octave lower than the usual pitch.

CONTRABAND, a. *kõn'tră-bănd'* [It. *contrabbando*, illegal traffic—from L. *contra*, against, and mid. L. *bannum*, a proclamation]: contrary to proclamation, treaty, or law; prohibited: N. prohibition of trading contrary to law; prohibited goods; illegal traffic with a belligerent power, especially in arms or materiel. CON'TRABAN'DIST, n. one who traffics in prohibited goods; a smuggler; also CON'TRABAND-IS'TA [Sp.].

CON'TRABAND OF WAR: name applied to certain commodities, or the rules relating to them, during hostilities between states which acknowledge what are called the laws of nations. One such law is, that neutral nations must not carry on, for the advantage of either of the belligerent powers, any branches of commerce from which they are excluded in time of peace. Another is, that, such articles as pertain to military or naval warfare—guns, ammunition, and stores of all kinds, shall be deemed C. of W. Unless there are special treaties, defining exactly what articles are C. of W., the interpretation of this law often leads to much embarrassment. Another law insisted on by England during her last European war was, that each belligerent shall have a right to visit and examine neutral ships, to see whether they carry any articles which are C. of W., and which seem likely to be intended for the enemy. A neutral state may carry on ordinary trade with either belligerent, except when prevented by blockade (see BLOCKADE); but the ships, according to the above rules, must not contain articles C. of W.; nor must a conterminous land frontier be crossed by such commodities. If a merchant evades these rules, he does so at his own risk; his merchandise may be seized, and his own government will not protect him. By the law and practice of nations, it is for the admiralty court of the capturing power to decide what is or what is not contraband of war. Upon such questions it is the province of this tribunal to adjudicate; and from its final judgment there is no appeal. At various times, discussions have arisen whether corn, hay, or coal, can ever be included in the list of articles C. of W.; they are obviously articles of peaceful commerce, but they are also essential to the maintenance of an army, and sometimes a supply would give one belligerent a great advantage over the other. Especially is this the case in reference to coal, in the present

CONTRA BASS—CONTRACT.

age of war-steamers.—Contraband in commerce depends upon the special laws of each country: see SMUGGLING.

CONTRA BASS, or VIOLONE': largest species of stringed instrument; commonly called the double bass. In Britain, this class of instrument has three strings, the lowest being A, a minor third below the low C of the violoncello; the next is a fourth above, viz., D; and the highest is G, a fourth above D. This manner of stringing is defective, as all the great masters have written for the C. B. down to E, for which reason the German instruments all have four strings, the lowest a fourth below the British low A.—C. B. is the name also of an organ stop of 16 ft. pitch.

CONTRACT, n. *kŏn'trăkt* [OF. *contract*, a contract, a bargain—from L. *contractus*, an agreement—from *con*, *tractus*, drawn or dragged: It. *contratto*: F. *contrat*—*lit.*, a drawing or dragging together]: an agreement; a mutual promise; a bargain; the writing which contains the terms and conditions of the agreement between two or more persons (see CONSENT); an act of betrothment: V. *kŏn-trăkt'*, to draw closer together; to draw into a less compass or bulk; to abridge; to wrinkle, as the brow; to betroth; to acquire, as a habit; to incur, as a debt; to bring on, as a disease; to bargain; to shrink or become shorter. CONTRAC'TING, imp. *-trăk'ting*. CONTRAC'TED, pp. CONTRAC'TOR, n. *-tēr*, one who agrees to do a certain service or work at a stipulated price or rate. CONTRAC'TION, n. *-shŭn* [F.—L.]: the act of drawing together or shortening; the thing shortened or reduced. CONTRAC'TEDLY, *-tĕd-lŭ*. CONTRAC'TEDNESS, n. CONTRAC'TIBLE, a. *-tĭ-bl*, capable of contraction. CONTRAC'TIBIL'ITY, n. *-bĭl'ĭ-tĭ*, the quality of being able to be contracted. CONTRAC'TIBLENESS, n. *-bl-nĕs*, the quality of being contractible. CONTRAC'TILE, a. *-tĭl*, having the power of shortening; tending to contract. CON'TRACTIL'ITY, n. *-tĭl'ĭ-tĭ*, the inherent quality or force by which some bodies shrink or contract, their particles, separated by force, resuming their former nearness when the force ceases; tendency to contract: a power in animal muscles by which they effect movement of the limbs. CONTRACTED VEIN, a term denoting the diminution which takes place in the diameter of a stream of water issuing from a vessel at a short distance from the discharging aperture; due to the increase of velocity as the particles descend.—SYN. of 'contract, v.': to abridge; abbreviate; curtail; shorten; epitomize; narrow; condense; lessen; reduce; confine; incur; affiance; shrink;—of 'contract, n.': agreement; covenant; bargain; compact; stipulation; obligation; arrangement.

CONTRACTIONS.

CONTRACTIONS. The wish or necessity of economising labor and parchment, led the scribes of the middle ages to use a great many abbreviations or C. in their manuscripts. These C. were transplanted into the first printed books; and more recently they have been reproduced in many works, where it was thought desirable that the modern print should represent as nearly as possible all the peculiarities of the ancient manuscript. A knowledge of C., therefore, is indispensable not only to readers of old writings, but to readers of the printed books of the 15th, the 16th, and the earlier part of the 17th c., and to all who desire to avail themselves of the vast stores of historical and archæological materials accumulated in the rolls and records published by the governments of Great Britain, France, and other countries.

C. may be divided into six classes: 1. C., properly so called; 2. C. by elision or suspension; 3. C. by writing a smaller letter above the word contracted; 4. C. by running two or more letters into one character; 5. C. by symbols representing syllables or words; 6. C. by initial letters.

1. *Of C., properly so called*, there are three great kinds: (I) A straight line over a letter denotes the omission of an *m* or an *n* after it, as in the following examples:

ā ānus, *annus*; quā, *quam*; faciāt, *faciant*; tenendā, *tenendam*.

ē faciēt, *facient*; regē, *regem*; serviētibus, *servientibus*.

ī statī, *statim*; ī, *in*; imēdiate, *immediate*.

īm omēs, *omnes*; omīa, *omnia*; omī, *omni*.

ō nō, *non*; cōmunis, *communis*; hōines, *homines*; cōcessa, *concessa*.

ū hūc, *hunc*; volūtātē, *voluntatem*; festū, *festum*; hōiū, *hominum*.

(II.) A crooked or circumflex line over or through a letter signifies that one or more letters are omitted after it—occasionally both before and after it—thus:

ā ca, *causa*; añ, *ante*; aña, *antea*; añlo, *angelo*; miām, *misericiordiam*.

ḃ be, *beate*; ḃi, *beati*; nobḃ, *nobis*; libtatē, *libertatem*.

ḃḃ abbe, *abbate*; aḃḃ, *abbas*.

ċ dċus, *dictus*; ecċia, *ecclesia*; sċa, *sancta*.

ḏ ḏ, *de*; ḏ, *dans*; ḏo, *deo*; dñs, *dominus*; dñi, *domini*; eḃḏa, *ebdomada*.

Ḑ David; ḐḐ, *David*.

ē ēe, *esse*; ē, *est*.

f fr. *frater*.

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g	mağro, <i>magistro</i> ; mğr, <i>magister</i> ; mağ, <i>magis</i> .
h	heat, <i>habeat</i> ; hui, <i>habui</i> ; hnt, <i>habent</i> .
i	aia, <i>anima</i> ; aial, <i>animal</i> ; aia, <i>animam</i> ; feia, <i>femina</i> ; mie, <i>minime</i> ; oio, <i>omnino</i> .
k	kms, <i>karissimus</i> ; kmi, <i>karissimi</i> .
t	fit, <i>filio</i> ; vt, <i>vel</i> ; tia, <i>licentia</i> ; t, <i>lege</i> ; tr, <i>libenter</i> ; ptat, <i>pluralis</i> .
h	baltis, <i>ballivis</i> ; sigitt, <i>sigillo</i> ; Wittmo, <i>Willelmo</i> .
m	omes, <i>omnes</i> , homibus, <i>hominibus</i> ; com, <i>comite</i> ; nis, <i>meus</i> ; tm, <i>tantum, tum, tamen</i> .
n	dns, <i>dominus</i> ; nr, <i>noster</i> ; nro, <i>nostro</i> ; ndu, <i>nondum</i> : tn, <i>tandem, tamen</i> ; snia, <i>sententiam</i> .
o	oia, <i>omnia</i> ; oro, <i>oratio</i> ; rois, <i>rationis</i> .
p	epis, <i>episcopis</i> ; pp, <i>papa</i> ; aplice, <i>apostolice</i> . pr, <i>pater</i> ; tps, <i>tempus</i> .
q	qstio, <i>questio</i> ; extorqre, <i>extorquere</i> .
r	gra, <i>gratia</i> ; nrm, <i>nostrum</i> ; pr, <i>pater</i> , pna, <i>paterna</i> .
s	sbtus, <i>subtus</i> ; s, <i>sum, sunt</i> ; ss, <i>suis</i> .
t	dic, <i>dictus, dicti, dicto, dictum</i> ; sal, <i>salutem</i> . itm, <i>item</i> ; ic, <i>tunc</i> .
u	au, <i>autem</i> ; ure, <i>uestre</i> ; uba, <i>uerba</i> .
v	vr, <i>vester</i> ; vris, <i>vestris</i> .

(III.) The sign ^o over a letter shews that *cr*—or occasionally *re*—is omitted after it, as :

b	ha ^b e, <i>habere</i> .
c	cto, <i>certo</i> ; exer ^c de, <i>exercere</i> ; fecit, <i>fecerit</i> .
d	possid ^e e, <i>possidere</i> ; evad ^e e, <i>evadere</i> .
f	fvid ^a a, <i>servida</i> ; pref ^r re, <i>preferre</i> .
g	infring ^e e, <i>infringere</i> ; eg ^g ssum, <i>egressum</i> ; trans ^g essor, <i>transgressor</i> .
h	hes, <i>heres</i> ; coh ^h cioni, <i>cohercioni</i> .
l	cl ^l icus, <i>clericus</i> ; expell ^e e, <i>expellere</i> .
m	am ^m cietur, <i>amercietur</i> ; m ^m cis, <i>mercis</i> ; m ^m cator, <i>mercator</i> .
n	of ⁿ a, <i>onera</i> ; gen ⁿ osi, <i>generosi</i> ; itine ⁿ e, <i>itinere</i> .
p	inqu ^p ise, <i>inquirere</i> .
s	sv ^s us, <i>servus</i> : sv ^s icium, <i>servicium</i> .

cēta, cetera ;	ſtram, terram ;	ſs, tres ;	tr, ter.
ſſuit, fuerit ;	hſſuit, habuerit.		
vbo, verbo ;	oſtes, ovetes ;	reſſe, revertere.	
ēxitum, exercitum.			

2. In C. by elision or suspension, the word is not fully written, the want of the terminating letters being denoted by the marks -, or ', or . ; thus :

ass-	assisa.
test'	teste.
dat.	datum.
temp.	tempore.

3. C. by writing a smaller letter above the word contracted. —If the letter so written be a vowel, it denotes the omission of a consonant; if a consonant, the omission of a vowel. Occasionally, the omission extends to two or more letters, whether vowels or consonants.

q ^a m	quam.
g ^a tia	gratia.
occ ^a one	occasione.
p ⁱ mis	primis.
m ⁱ	mihi.
n ⁱ	nisi.
s ⁱ	sibi.
imp ^s onet ^r	imprisonetur.
m ^o	millesimo, modo
int ^o itus	introitus.
mag ^o	magistro.
m ^o asteriū	monasterium.
p ^r isas	prisas.
fig ^r a	figura.
c ^v cis	crucis.

4. Of C. by running two or more letters into one character, the diphthongs æ and œ, and the sign & for et, are familiar examples. The modern & has often, in old writings and books, the form of &, and 7, and 8. A circumflex over this last character & represents etiam.

5. C. by symbols representing syllables or words. —The most common of these are shown in the following table:

cō	cio; invençõe, invencione.
q	con or com; quentus, conuentus; qpellere, compellere.
p	pre; p oculis, pre oculis; pstito, prestito,

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p	<i>per, par, and por; ppetuo, perpetuo; patus, paratus; corpum, corporum; pⁿ^a, persona.</i>
p	<i>pro; pprio, proprio; p ppetuo, pro perpetuo.</i>
q	<i>que; absq, absque.</i>
ſ	<i>rum; ſuoſ, ſeruorum.</i>
ſ	<i>ser; ſuicio, ſeruicio.</i>
ſ	<i>us and et; quibz, quibus; quilibz, quilibet; ſz, set (ſed).</i>
z	<i>nr; audit^zis, audituris; vis^zis, visuris.</i>
o	<i>us, os, and ost; huj^o, hujus; dedim^o, dedimus; p^o, post; p^ot, post; p^otea, postea.</i>
z	<i>tz; fiz, fitz.</i>
e	<i>is; Scotte, Scottis; lorde, lordis.</i>
est	<i>est.</i>
ē	<i>est.</i>
g ^z	<i>igitur.</i>
g ^o	<i>ergo.</i>
h ^z	<i>hic.</i>
h	<i>hec or hoc.</i>
vel	<i>vel.</i>
n	<i>non.</i>
q	<i>que.</i>
q	<i>quod.</i>
q ^a	<i>quam.</i>
q ^z	<i>quia.</i>

6. For the common *C.* by initials, see ABBREVIATIONS. In this way of writing, a whole sentence may be expressed without so much as one word being written at length, as in the well-known epistolary form S.V.B.E.E.Q.V.; that is *Si vales bene est, ego quidem valeo*. Among the many initials used in old writings and books, are the following:

A.	Alexander, Alanus, Arthurus.
B.	Benedictus, Bernardus, Bonifacius.
B.M.V.	Beata Maria Virgo.
B.P.	Beatus Paulus, or Petrus.
B.V.	Bene vale.
C.TT.	Cardinalis Tituli.
D.	David, Durandus, Duncanus.
D.N.PP.	Dominus Noster Papa.
E.R.	Ecclesia Romana.
F.F.F	Fiat, Fiat, Fiat.
G.	Gulielmus, Gilbertus, Guido, Georgius.
G.G.	Gregorius.

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I.C. or I.X.	Jesus Christus.
I.D.N.	In Dei Nomine.
J.	Johannes, Jacobus, Julietta, Josephus.
M.	Malcolmus, Martinus, Matilda, Maria.
N.E.R.	Notarius Ecclesiæ Romanæ.
O.S.B.	Ordinis Sancti Benedicti.
P.S.R.I.	Princeps Sacri Romani Imperii.
R.	Robertus, Rolandus, Ricardus.
R.P.D.	Reverendissime Pater Domine.
S.	Symon, Samuel, Siwardus.
S.C.M.	Sacra Cæsarea Majestas.
S.D.	Salutem Dicit.
S.D.N.R.	Supremus Dominus Noster Rex.
S.M.E.	Sancta Mater Ecclesia.
S.P.	Sacri Palatii.
S.R.E.	Sacra Romana Ecclesia.
S.V.	Sanctitas Vestra.
T.	Thomas, Turgodus, Thoraldus.
V.R.P.	Vestra Reverendissima Paternitas.
V.S.	Vestræ Sanctitatis.
W.	Willelmus, Walterus, Wido.

Doubling an initial, shows that it is to be taken in the plural sense, as PP. for Papæ, TT. for Tituli, MSS. for Manuscripts.

C. Corrupted.—The Anglo-Saxon, *þ*, denoting *th*, has been corrupted into *y*; whence *y^e* is put for *the*, *y^r* for *their*, *yⁿ* for *then*. In Scotland, the numerals *j^m* *vj^c*, that is, 1,600, have been corrupted into the unmeaning word *jaj*, or *jajc*.

C. Exemplified.—A sentence of the famous Declaration of Scottish Independence of 1320 is here given, with the contractions of the original (now in the Register House at Edinburgh); the same sentence with the contracted words written at length being placed by its side.

Original.	Contracted words at length.
Quia q ^a diu Centū viui remanserint / nūcq ^a Ang- toꝝ dñio aliq ^a ten ^o volum ^o subingari / Non eni pp ^l gtiam / diuicias aut hono- res pugnam ^o / set pp ^l lib- tatem solūmodo / q ^a m nemo bon ^o / n ⁱ simul cū vita am ^t tit.	Quia quamdiu Centum viui remanserint, nunquam Anglorum dominio aliqua- tenus volumus subiugari : non enim propter gloriam, diuicias, aut honores pug- namus, set propter liber- tatem solummodo, quam nemo bonus nisi simul cum vita amittit.

That is, ‘So long as a hundred of us remain in life, we will never be brought under the dominion of the English; for it is not for glory, or riches, or honors that we fight, but for freedom alone, which no good man will part with, except with his life.’

Collections of C. have been engraved in *fac-simile* in several works, among which are Baring’s *Clavis Diplomatica*, Hanov, 1737 and 1754; Anderson’s *Diplomata Scotiæ*, Edin.

CONTRA-DANCE—CONTRAPUNTAL.

1739; Walther's *Lexicon Diplomaticum*, Gotting. 1745; the *Nouveau Traité de Diplomatie*, Paris, 1750-65, one of the many noble works of the Benedictines of St. Maur; Lemoine's *Diplomatique Pratique*, Metz, 1765; Trombelli's *L'Arte di conoscere leta de' codici Latini ed Italiani*, 1756 and 1778; De Wailly's *Eléments de Paléographie*, Paris, 1838; Chas-sant's *Paléographie*, Paris, 1839 (7th ed. 1880), and his *Dictionnaire des Abréviations*. See PALÆOGRAPHY, and the works there named.

CONTRA-DANCE, n. *kõn'tră-dăns* [L. *contra*, and *dance*]: a dance in which the partners are arranged in opposite lines: F. *contre-danse*, corrupted into *country-dance*.

CONTRADICT, v. *kõn'tră dikt'* [L. *contradic'tus*, spoken against, contradicted; *contradictiōnem*, a. speaking against, a reply—from *contra*, *dictus*, spoken: It. *contradizione*; F. *contradiction*, contradiction—*lit.*, to speak against]: to oppose by words; to assert the contrary of what has been said; to gainsay; to impugn. **CON'TRADIC'TING**, imp. **CON'TRADIC'TED**, pp. **CON'TRADIC'TER**, n. *-tér*, one who. **CON'TRADIC'TION**, n. *-dik'shũn*, a contrary statement; an assertion opposed to what has been said; inconsistency with itself; opposition in any way. **CON'TRADIC'TIVE**, a. *-dik'tiv*, containing contradiction; adverse. **CON'TRADIC'TIVELY**, ad. *-li*. **CON'TRADIC'TIOUS**, a. *-dik'shũs*, inclined to contradict; filled with contradictions; inconsistent. **CON'TRADIC'TIOUSNESS**, n. **CON'TRADIC'TORY**, a. *-tér-ě*, affirming the contrary; containing a denial of what has been asserted; inconsistent: N. in *logic*, a proposition opposed to another in all its terms. **CON'TRADIC'TORILY**, ad. *-li*.

CONTRADISTINCTIVE, a. *kõn'tră-dĩs-tĩnk'tiv* [L. *contra*, opposite, and *distinctive*]: distinguished or marked by opposite qualities. **CON'TRADISTINC'TION**, n. *-tĩnk'shũn*, distinction by opposite qualities; opposition.

CONTRADISTINGUISH, v. *kõn'tră-dĩs-tĩng'gwĩsh* [L. *contra*, opposite, and *distinguish*]: to explain not only by different but by opposite qualities. **CON'TRADISTIN'GUISHING**, imp. **CON'TRADISTIN'GUISHED**, pp. *-gwĩsh't*.

CONTRA-INDICATE, v. *kõn'tră-ĩn'dĩ-kăt* [L. *contra*, opposite, and *indicate*]: in *med.*, to point out some peculiar method of cure contrary to the usual treatment. **CON'TRA-IN'DICANT**, n. *-kănt*, a symptom in a disorder forbidding the usual treatment. **CON'TRA-IN'DICA'TION**, n. *-kă'shũn*, a symptom which forbids the usual treatment.

CONTRALTO, n. *kõn-tră'l tō*, **CONTRAL'TOES**, n. plu. *-tōz*, or **CONTRAL'TI**, n. plu. *-tĩ* [It. *contralto*—from L. *contra*, *altus*, high]: in harmonized music, the counter-tenor or alto; one of the middle parts; the lowest kind of female voice, practically identical with the male *alto*.

CONTRA-POSITION, n. *kõn'tră-pō-zish'ũn* [L. *contra*, opposite, and *position*]: a placing over against; in *logic*, conversion in particular propositions.

CONTRAPUNTAL, a. *kõn'tră-pũn'tăl* [It. *contrappunto*, counterpoint in music (see COUNTERPOINT)]; pertaining to

CONTRARIETY—CONTRAVERSION.

counterpoint. CON'TRAPUN'TIST, n. one skilled in counterpoint.

CONTRARIETY, CONTRARILY, etc.: see under CONTRARY.

CONTRARY, a. *kõn'tră-rĩ* [F. *contraire*—from L. *contrāriūs*, lying or being over against—from *contra*, against; It. *contrario*]: adverse; opposite; contradictory; repugnant; in an opposite direction: N. a thing of opposite qualities. CONTRARIES, n. plu. *-rĩz*, opposites; propositions that destroy each other. CONTRARY TO, opposite to. ON THE CONTRARY, in opposition; on the other side. TO THE CONTRARY, to an opposite purpose or intent. CON'TRARI'ETY, n. *-rĩ'i-tĩ* [F. *contrariété*]: some inherent quality or principle which creates opposition; repugnance; inconsistency. CON'TRARILY, ad. *-tră-rĩ-lĩ*. CON'TRARINESS, n. CON'TRARIWISE, conj. ad. *-rĩ-wĩz*, on the other hand; conversely. CONTRARY, v. *kõn-tră'rĩ*, in *OE.*, to oppose; to contradict. CONTRA'RYING, imp. CONTRARIED, pp. *kõn-tră'rĩd*.—SYN. of 'contrariety': inconsistency; discrepancy; repugnance; difference; variety; diversity; contrast;—of 'contrary, a.': adverse; hostile; inconsistent; discordant; inimical.

CONTRAST, n. *kõn'trăst* [F. *contraste*, opposition—from It. *contrastare*, to oppose—from L. *contra*, against, *stārē*, to stand]: opposition or difference of qualities made manifest by direct comparison; opposition of outline or color to increase effect: V. *kõn-trăst'*, to oppose different things, qualities, or conditions to each other, that, by comparison, the superior excellence of one of them may be seen; to set things of a like kind in opposition, or side by side, in order that the superiority of one of them may be exhibited in a more striking point of view. CONTRAST'ING, imp. CONTRAST'ED, pp.—SYN. of 'contrast, n.': difference; variety; variation; distinction; diversity; contrariety; disagreement.

CONTRATE-WHEEL, n. *kõn'trăt-hwēl* [L. *contra*, against, opposite, and *wheel*]: in a *watch*, a wheel, the teeth and hoop of which lie contrary to the other wheels, or parallel to the axis; also CROWN-WHEEL.

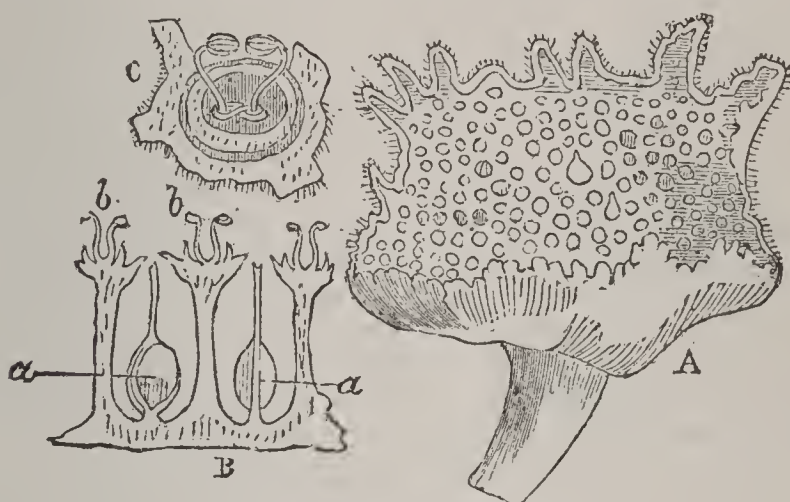
CONTRAVALLOCATION, n. *kõn'tră-văł-lă'shũn* [L. *contra*, opposite; *vallum*, a wall, a rampart]: in *fort.*, a trench guarded by a parapet, formed to secure the besiegers from the sallies of the besieged.

CONTRAVENTE, v. *kõn'tră-vēn'* [F. *contrevenir*, to offend or transgress—from L. *contra*, opposite; *venīrē*, to come; It. *contravvenire*—*lit*, to come opposite or against]: to obstruct in operation; to oppose; to defeat; to do anything in opposition to the provisions of a law. CON'TRAVE'NING, imp. CON'TRAVENED', pp. *-vēnd'*. CON'TRAVE'NER, n. one who. CON'TRAVEN'TION, n. *-vēn'shũn* [F.—L.]: obstruction; a defeating of the operation or effect, as of a law or treaty: in *Scottish law*, see *LAWBURROWS*.—SYN. of 'contravene': to contradict; nullify; defeat; cross; obstruct; oppose; transgress.

CONTRAVERSION, n. *kõn'tră-vēr'shũn* [L. *contra*, opposite; *versus*, turned]: a turning to the opposite side.

CONTRAYERVA—CONTRIBUTE.

CONTRAYERVA, *kõn-tra-yér'va*: medicine formerly in much repute against low fevers, and as a mild stimulant and diaphoretic, and still used in some countries. It consists of the root-stocks (rhizomes) of different species of *Dorstenia* a tropical American plant of the nat. ord. *Moraceæ*. The genus is remarkable for the plane receptacle in which the numerous small flowers are fixed; the male flowers in superficial depressions, the female flowers in deep sockets. The flowers have neither calyx nor corolla. The fruit



Dorstenia Contrayerva:

A, entire receptacle; B, section of receptacle; a, female flowers; b, male flowers; c, male flower in its superficial hollow.

consists of *achenia*, imbedded in the fleshy receptacle from which they are projected by elastic force when ripe. *D. Contrayerva* is a perennial plant, with palmate leaves, and somewhat quadrangular receptacles. Its root-stock is knotty, 1-2 inches long, about half an inch thick, reddish-brown, pale within, sending out on all sides many slender fibres (roots), which are generally loaded with small brown knots. It has a peculiar aromatic, overpowering smell, and a somewhat astringent, warm, bitterish taste. It does not keep well. It contains so much mucilage, that a decoction of it will not pass through a filter.—*D. Brasiliensis*, stemless species, with oblong, heart-shaped leaves and circular receptacle, native of the W. Indies and Brazil, has similar properties, but is said to be more energetic, and furnishes the C. of commerce. Other species possess similar properties. They have been represented as efficacious against serpent-bites, and hence the name C., a *counter-poison*.

CONTRETEMPS, n. *kõng' tr-tâng* [F.—from L. *contra*, against; *tempus*, time]: an unexpected circumstance or event which throws everything into confusion.

CONTRIBUTE, v. *kõn-trib'üt* [L. *contribūtus*, contributed—from *con*, *tribu'ěrě*, to grant or give: It. *contribuire*: F. *contribuer*]: to give or grant in common with others, as to a common stock; to pay a share; to give a part or share; to impart aid or influence to a common purpose. **CONTRIB'UTING**, imp. **CONTRIB'UTED**, pp. **CONTRIB'UTABLE**, a. *-tă-bl*. **CONTRIB'UTARY**, a. *tér-ĩ*, paying tribute to the

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same sovereign. CONTRIB'UTOR, n. one who. CON'TRIBU'TION, n. -trī-bū'shŭn [F. *contribution*—from L. *contribūtīōnem*]: anything given to a common stock; the payment of each man's share of some common expense; the act of imparting or lending aid or influence for a common purpose. CONTRIB'UTIVE, a. -trīb'ū-tīv, tending to contribute; having the power or quality of partly promoting any purpose. CONTRIB'UTORY, a. -tēr-i, promoting the same end; bringing aid to the same stock or purpose.

CONTRITE, a. kōn'trit [L. *contrītus*, bruised, much used—from *con*, *trītus*, rubbed: It. *contrito*; F. *contrit*, contrite—*lit.*, bruised or worn, as with sorrow]: deeply affected with grief and sorrow for having offended God; penitent; humble. CONTRITE'LY, ad. -lī. CONTRI'TION, n. -trīsh'ŭn [F. *contrition*—from L. *contritiōnem*]: act of rubbing or grinding to powder; deep sorrow; penitence; grief of heart for sin. *Note.*—In theology, 'contrite' is, sorrowful for sin from the desire of pleasing God from love of Him; while 'atritte' is, sorrowful for sin from dread of punishment. —SYN. of 'contrite': penitent; repentant; humble; sorrowful;—of 'contrition': penitence; repentance; compunction; remorse; regret; humiliation.

CONTRIVE, v. kōn-trīv' [F. *controuver*, to devise—from L. *con*, and F. *trouver*, to find: OF. *trover*; Prov. *trobar*—from mid. L. *turbārē*, to move, to seek for: It. *trovare*, to invent or seek out]: to plan out; to frame or devise; to scheme. CONTRI'VING, imp. CONTRIVED', pp. -trīvd'. CONTRI'VER, n. one who. CONTRI'VABLE, a. -vā-bl, capable of being planned or devised. CONTRI'VANCE, n. -trī-vāns, the act of planning or devising; the thing planned or devised; a scheme.—SYN. of 'contrive': to devise; invent; concert; manage; discover; plan; plot; project; scheme;—of 'contrivance': device; plan; project; design; invention; shift; machination; artifice; resource.

CONTRIVE, v. kōn-trīv' [L. *contrīvī*, I have worn by rubbing, I have wasted—from *con*, *tēro*, I rub or grind]: in *OE.*, to wear away; to waste; to spend.

CONTROL, v. kōn-trōl' [F. *contrôle*, a register, a counter-roll—from OF. *contre-rôle*, the copy of a roll of accounts used to verify the official or first roll—from *contre*, against; *rôle*, a roll (see *COMPT*)]: to check by a contra-account; to restrain; to govern; to subject to authority: N. check; restraint; power; command; that which restrains, as *Board of Control*. CONTROL'LING, imp. CONTROLLED', pp. -trōld'. CONTROL'LER, n. [F. *contrôleur*, a comptroller—from mid. L. *contrarōtūlātor*, one who examined and checked the public accounts]: spelled also COMPTROLLER, one who; in the *army*, one of the highest officers in the control department. CONTROL'LABEL, a. -lā-bl, that may be checked or restrained. CONTROL'LESHIP, n. the office of a controller. CONTROL DEPARTMENT, in the *army*, the department which performs all the administrative duties, such as supply, transport, and all other non-combatant duties, except educational and scientific.—SYN. of 'control, n.': charge; care; management; administration; government; direction;

CONTROVERT—CONUNDRUM.

command, check; restraint;—of 'control, v.': to restrain; check; curb; rule; govern; direct; counteract; overpower.

CONTROVERT, v. *kõn'trõ-vèrt* [It. *controvertere*, to controvert—from L. *contra*, *vertèrè*, to turn; *versus*, turned]: to dispute; to contend against in words or writing; to deny and attempt to confute or disprove. **CON'TROVERT'ING**, imp. **CON'TROVERT'ED**, pp. **CON'TROVER'TIBLE**, a. *-ti-bl*, disputable. **CON'TROVER'TIBLY**, ad. *-tĩ-blĩ*. **CON'TROVER'TIST**, n. one who. **CON'TROVERSY**, n. *-vèr-sĩ* [F. *controverse*, controversy—from L. *controversiã*, a quarrel: L. *contra*, *versus*, turned]: debate or dispute, generally carried on in writing; an agitation of contrary opinions; strife. **CON'TROVER'SIAL**, a. *-vèr'shãl*, relating to disputes. **CON'TROVER'SIALLY**, ad. *-shãl-lĩ*. **CON'TROVER'SIALIST**, n. *-ĩst*, a disputant; one who. **CON'TROVERSE**, n. *-vèrs*, in *OE.*, controversy.—**SYN.** of 'controversy': contest; dispute; debate; disputation; argument; wrangle; hostility; quarrel; gainsaying; contention; discussion.

CONTUMACIOUS, a. *kõn'tũ-mã'shũs* [L. *contũmãcem*, haughty, obstinate; *contumãciã*, haughtiness, obstinacy—from L. *con*, *tumèrè*, to swell, to be puffed up: It. *contumacia*: F. *contumace*—*lit.*, swelled or puffed up against]: stubborn; perverse; unyielding; disobedient to lawful authority. **CON'TUMA'CIOUSLY**, ad. *-lĩ*. **CON'TUMA'CIOUSNESS**, n. *-shũs-nès*. **CON'TUMACY**, n. *-mã-sĩ*, stubbornness; contempt of lawful authority; disobedience: in *Scottish law*, equivalent to non-appearance (see **DECREE IN ABSENCE**).—**SYN.** of 'contumacious': obdurate; hardened; callous; obstinate; pertinacious; stubborn; perverse; unyielding; proud; headstrong; inflexible; haughty.

CONTUMELIOUS, a. *kõn'tũ-mè'lĩ-ũs* [L. *contumĩliõsus*, full of abuse; *contumĩliũ*, a bitter taunt, an affront—from *con*, *tumèrè*, to swell: It. *contumelia*—*lit.*, swelling in bitter taunts against]: insolent; contemptuous; haughtily reproachful; rude and sarcastic in speech. **CON'TUME'LI-ously**, ad. *-lĩ*. **CON'TUME'LI-ousness**, n. the quality of being contumelious. **CON'TUMELY**, n. *-mèl-ĩ* [F. *contumelie*, reproach—from L. *contumĩliũ*, insult]: insolence; excessive rudeness in order to affront; contemptuous language.

CONTUSE, v. *kõn-tũz'* [L. *contũsum*, a bruise—from *con*, *tũsus*, beaten: It. *contuso*; F. *contus*, bruised]: to injure the flesh of the body by beating; to bruise; to beat; to bruise or injure any fleshy part of the body without breaking the skin. **CONTU'SING**, imp. **CONTUSED'**, pp. *-tũzd'*. **CONTU'SION**, n. *-tũ'zhũn* [F. *contusion*—from L. *contũ-siõnem*]: an injury on any part of the body from a blow without breaking the skin; a bruise: see **BRUISE**.

CONULARIA, n. *kõn'ũ-lã'rĩ-ã* [L. *conũlũs*, a little cone]: a genus of fossil Paleozoic pteropod shells having a tapering conical outline.

CONUNDRUM, n. *kõ nũn'drũm* [AS. *cunnan*, to know; *cunneð*, crafty; and perhaps *dréam*, joy, mirth]: a sort of riddle in which some fanciful or odd resemblance is proposed for discovery between things totally unlike.

CONUS—CONVENT.

CONUS, n. *kō'nūs* [L., a cone]: genus of gasteropodous mollusks, the typical one of the family *Conidae*. The shell is inversely conical, with a long narrow aperture, a notched outer lip, and a minute lamellar operculum.

CONVALESCE, v. *kõn'vǎ-lēs'* [L. *convales'cērē*, to grow quite strong—from *con*, *vales'co*, I grow or get strong]: to gradually grow better after sickness; to recover health by degrees. **CON'VALES'CING**, imp. **CON'VALESCED'**, pp. *-lēst'*. **CON'VALES'CENT**, a. *-lē's'sēnt* [F.—L.]: recovering health and strength after sickness: N. one who has recovered from sickness though not able to engage in active duty. **CON'-VALES'CENCE**, n. *lē's'sēns* [F.—L.]: renewal of health after sickness or debility.

CONVALESCENT HOSPITAL: valuable stage in the process of cure. Many patients die on returning from ordinary hospitals to their own unhealthy homes; the convalescent home or hospital receives those in whom recovery has begun but whose places in ordinary hospitals are needed for others. Either a series of detached cottages, or one large and well-appointed house, may serve to secure pure air and wholesome treatment. Of the latter kind, one of the first and best models was the magnificent establishment at Vincennes, founded 1857. It contains more than 400 beds; permits an average stay of 20 to 30 days; and in three years received 14,000 convalescent artisans.

CONVALLA'RIA: see **LILY OF THE VALLEY**.

CONVECTION, n. *kõn-věk'shŭn* [L. *convectus*, conveyed—from *con*, together; *vectus*, carried]: the process of conveying or transmitting; the mode in which heat is propagated through the body of a liquid by the movements or currents of the heated portions—in contradistinction to *conduction*, the propagation of heat through a solid: see **HEAT**. **CONVEC'TIVE**, a. *-tīv*, caused or accomplished by convection. **CONVEC'TIVELY**, ad. *-lī*.

CONVENE, v. *kõn-vēn'* [F. *convenir*, to agree—from L. *convenīrē*, to come or meet together—from *con*, *venīrē*, to come: It. *convenire*]: to come together; to call; to meet; to come together for a public purpose; to cause to assemble; to call together; to convoke. **CONVE'NING**, imp. **CONVENED'**, pp. *-vënd'*. **CONVE'NER**, n. the chairman of a committee; one empowered to call others together. **CONVENABLE**, a. *kõn-vē'nǎ-bl* [F.]: in *OE.*, that may be convened; consistent with· accordant to.—**SYN.** of 'convene': to assemble; meet; join; unite.

CONVENIENT, a. *kõn-vē'nī-ěnt* [L. *conven'iens*, or *convenīen'tem*, agreeing, suitable: It. *conveniente* (see **CONVENE**)]: suitable; fit; adapted to use or wants; commodious. **CONVE'NIENTLY**, ad. *-lī*. **CONVE'NIENCE**, n. *-nī-ěns*, or **CONVE'NIENCY**, *-nī-en-sī* [L. *convēniēntiā*]: suitability; commodiousness; that which is suited to wants or necessity.—**SYN.** of 'convenient': handy; suited; fit; fitted; adapted.

CONVENT, n. *kõn'vent* [F. *convent*—from L. *conventus*, a meeting, an assembly—from *con*, *ventus*, come: It. *convento*—*lit.*, the church or meeting of the faithful]: a house for

CONVENT--CONVENTION.

persons devoting their lives to religious purposes; a body of monks or nuns—the house for the former is called a *monastery* and for the latter a *nunnery*. CONVEN'TUAL, a. -vĕn'-tū-ăl [F. *conventuel*]: belonging to a convent: N. a monk; a nun.—SYN. of 'convent': cloister; abbey; nunnery; monastery; priory.

CONVENT: see NUN: MONASTERY: MONACHISM.

CONVENTICLE, n. kŏn-vĕn'tī-kl [L. *conventic'ulum*, an assembly, a place of assembly: It. *conventiculo*: F. *conventicule* (see CONVENE)]: a cabal or secret assembly, originally among monks of a monastery to secure the election of some favorite as abbot. It was given as an appellation of reproach to the assemblies of Wickliffe's followers, and was afterward applied to the meetings of the English and Scottish nonconformists for worship: severe statutes were often passed for the suppression of these conventicles: see ACT OF TOLERATION: TEST ACTS. The word is now used in contempt of a religious meeting of questionable propriety or decency; a meeting for plots. CONVEN'TICLER, n. -tī-kler, one who supports or frequents conventicles.

CONVENTION, n. kŏn-vĕn'shŭn [F. *convention*—from L. *conventiōnem*, an assembly (see CONVENE)]: the act of coming together; an assembly, particularly of delegates or representatives (see NATIONAL CONVENTION); an agreement made at a public assembly; an agreement made before a treaty or between the commanders of two hostile armies. CONVEN'TIONAL, a. -ăl [F. *conventionnel*]: customary; stipulated; tacitly understood; formal and unnatural. CONVEN'TIONALLY, ad. -lĭ. CONVEN'TIONAL'ITY, n. -ăl'ĭ-tĭ, anything pertaining to the customary usages of social life in living and acting. CONVEN'TIONALISM, n. -ĭzm, that which is received or established by custom or tacit consent. CONVEN'TIONARY, a. -shŭn-ĕr-ĭ, acting under contract. CONVEN'TIONER, n. a member of a convention. CONVEN'TIONIST, n. -ĭst, one who enters into a contract.

CONVENTION, NATIONAL POLITICAL: assembly of delegates chosen in all the states and territories for the purpose of adopting a platform of party belief and principles, and nominating candidates for the offices of pres. and vice-pres. of the United States. They are composed of two delegates for each member of congress, who represent the congressional districts, and two for each U. S. senator, who represent the several states at large and are called delegates-at-large. Delegates are chosen either in state or district conventions, called for the purpose, according to the local usages of political parties. A C. also appoints a national committee which has direct charge of the presidential campaign for its political party. Prior to 1831, candidates for the presidential offices were nominated by the states. The first national political convention ever held in the United States met at Philadelphia 1830, under the presidency of Francis Granger. It was anti-Masonic in character, adopted resolutions answering to the platforms of subsequent times, and adjourned to meet in Baltimore in 1831, Sep., at which time it made the first

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convention nominations, its choice being William Wirt, of Md., for pres., and Amos Ellmaker, of Penn., for vice-pres. The national republicans held their first convention in Baltimore, 1831, Dec. 12, adopted as a platform an address to the country, and nominated Henry Clay, of Ky., for pres., and John Sergeant, of Penn., for vice-pres. In 1832, May, the first democratic national convention was held in Baltimore; it renominated Gen. Jackson for pres., and nominated Martin Van Buren, of N. Y., for vice-pres. The second democratic convention met in Baltimore 1835, adopted the famous 'two-thirds' rule, and unanimously nominated Martin Van Buren for pres., and Richard M. Johnson for vice-pres. The idea of a national convention had not yet been generally adopted, for in that year several whig state conventions nominated William Henry Harrison and Francis Granger; Ga. and Tenn. nominated Hugh L. White and John Tyler; Mass., Webster and Granger; Md., Harrison and Tyler; and S. C., W. P. Mangum and John Tyler. For the presidential campaign of 1840, the whigs held a national convention at Harrisburg, 1839, Dec., and nominated William Henry Harrison for pres., and John Tyler for vice-pres.; and the democrats at Baltimore, 1840, May 5, unanimously renominated Martin Van Buren for pres., but made no nomination for vice-pres.; Richard M. Johnson and James K. Polk were subsequently nominated by several states. The first appearance of a 'liberal' party in national convention was at Buffalo 1843, Aug. 30, when J. G. Birney and Thomas Morris received the nominations. In the following year the whigs at Baltimore, May 1, nominated Henry Clay and Theodore Frelinghuysen, and the democrats at the same place, May 23, nominated James K. Polk, on the ninth ballot, and George M. Dallas. The campaign of 1848 saw four presidential tickets in the field. The democrats at Baltimore, May 22, nominated Gen. Lewis Cass and Gen. William O. Butler; the whigs at Philadelphia, June 7, nominated Gen. Taylor and Millard Fillmore; the first national convention of the friends of free territory (against further extension of slavery) at Buffalo, Aug. 9, nominated Martin VanBuren and Charles Francis Adams; and the 'barn-burners' (though in state convention) at Utica, June 22-3, nominated Mr. VanBuren and Henry Dodge. The free-soil democrats held their first national convention at Pittsburg, 1852, Aug. 11, and nominated John P. Hale and George W. Julian; the same year the whigs at Baltimore, June, nominated Gen. Scott and William A. Graham; and the democrats at Baltimore, June, Franklin Pierce (49th ballot) and William R. King. In 1856 two new parties appeared in the field. The national Americans met at Philadelphia, adopted a platform declaring that Americans must rule America, and nominated Ex-Pres. Fillmore and Andrew J. Donelson; and the anti-Nebraska men, with other 'free-soilers' who condemned the repudiation of the Mo. compromise, held their first convention in Pittsburg, Feb. 22, and nominated John C. Fremont and William L. Dayton; this was the first con-

CONVENTIONAL—CONVENTION PARLIAMENT.

vention of what has since been known as the republican party. The democrats that year at Cincinnati, June 5, nominated James Buchanan and John C. Breckinridge. Since 1856 the republicans and democrats have held regular conventions; a constitutional union (late American) convention was held at Baltimore, 1860, May 9; two democratic conventions were held 1860, Charleston, Apr., and Baltimore, June; a soldiers' and sailors' convention was held at New York, 1868, July 4; a labor reform convention was held at Columbus, 1872, Feb. 21; the first national liberal republican convention was held at Cincinnati, 1872, May; the first national greenback convention was held at Indianapolis 1876, May 18; the first national prohibition convention was held at Cleveland, 1880, June 17; the first national anti-monopoly convention was held at Chicago, 1884, May 14; and the first national woman's suffrage convention was held 1884, and nominated Mrs. Belva Lockwood for president.

CONVEN'TIONAL, in Art: that which is in accordance, not with the absolute principles of beauty in form and color, but with the opinions and style of the time and place: in a higher sense, the modification of natural forms required by certain principles of decorative art, such as that a repeated pattern must not strictly copy nature but be generalized, especially so on a flexible fabric; also, the more form the less natural color, etc.

CONVEN'TION OF ROY'AL BURGHS, in Scotland annual meeting developed from the anc. burgh system (see BURGH); convened first in 1487 at Inverkeithing, where 'the welfare of merchandise, the gude rule and statutes for the common profit of burrows,' should be discussed, 'and which should provide for remeid upon the skaith and injuries sustained within the burrows.' See SETTS. The C. of R. B. meets annually in Edinburgh on the second Tuesday of July. Its operations are now almost entirely limited to discussing measures connected with trade, for which it may be proposed to apply to parliament. It acts in the character of a general chamber of commerce (q.v.).

CONVEN'TION PARLIAMENT: historical expedient in Britain for a legislative expression of the general popular will in default of the legal authorization usually requisite. It is a branch of the royal prerogative, that no parliament shall be convened by its own authority, or by any other authority than that of the sovereign. Where the crown is in abeyance, this prerogative cannot of course be exercised, and the expedient of convention parliaments has been resorted to, the enactments of which shall afterward be ratified by a parliament summoned in accordance with the provisions of the constitution. The C. P. which restored Charles II. to the throne met more than a month before his return, and was afterward declared a good parliament notwithstanding the defect of the king's writs (13 Car. II. c. 7 and c. 14). In like manner, at the revolution of 1688, the lords and commons. on the summons of the

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Prince of Orange, met in convention, and disposed of the crown and kingdom; and this convention was subsequently declared (1 Will. and Mary, st. 1, c. 1) to be really the two houses of parliament, notwithstanding the want of writs and other defects of form. Under the name of CONVENTION, there was also a meeting of the Estates of Scotland, called by the Prince of Orange on the same occasion, beginning 1689, Mar. 14, and turned into a parliament June 5. Its principal act was to settle the Scottish crown upon William and Mary. After these precedents, the meeting of a C. P. might almost be entitled the constitutional mode in which the general will of England expresses itself on such questions as cannot be constitutionally discussed in parliament—e.g., a change of the reigning dynasty.

CONVERGE, v. *kõn-věřj'* [F. *converger*—from mid. L. *convergĕrĕ*, to converge—from L. *con*, *vergĕrĕ*, to incline, to bend]: to incline or tend to one point, as rays or lines—*diverge*, its opposite, means to branch or radiate off from a point. CONVER'GING, imp.: ADJ. having a movement or direction toward the same point. CONVERGED', pp. *-věřjd'*. CONVER'GENT, a. *-věřjĕnt* [F.]: tending to one point; in *bot*, applied to ribs of leaves running from base to apex in a curved manner. CONVER'GENCE, n. *-jĕns*, or CONVER'GENCY, n. *-jĕn-sĭ* [F. *convergence*]: tendency to one point.

CONVERG'ING, or CONVERG'ENT, in Geometry: descriptive of straight lines that meet or tend to meet in a point; looked at in a direction from the point, they are *divergent*, or separating. C. and divergent are often used in reference to rays of light: see CATOPTICS.—In Algebra, the term convergent is applied, loosely, to any infinite series the terms of which go on diminishing: while a series is called divergent when its terms continually increase. Strictly, however, a C. series is one whose terms diminish in such a way that no number of them added together will be as great as a certain given number. Thus, however far we extend the series, $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$, etc., the sum will never amount to 2, though always approaching nearer to it. But the series, $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \text{etc.}$, has no such limit, and is therefore not convergent in this sense.

CONVERSABLE, CONVERSANT, etc.: see under CONVERSE 1.

CONVERSANO, *kõn-věř-să'nō*: town of s. Italy, province of Bari, about 19 m. s.e. of the city of Bari. It is pleasantly situated on a hill in a fertile wine, oil, almond, and cotton producing district. It has a cathedral and several convents. Pop. about 10,500.

CONVERSAZIONE, n. *kõn'vēř-săt'zĭ-ō'nā*, plu. CON'VERSAZ'IONI, *-săt'zĭ-ō-nĕ* [It.]: a select company met for conversation, generally on literary topics; a *soirée* or reunion.

CONVERSE, v. *kõn-věřs'* [F. *converser*, to talk with—from L. *conversārĭ*, to live or keep company with—from *con*, *ver-sārĕ*, to turn much or often. It. *conversare*]: *formerly*, to live or keep company with; to talk familiarly with; to speak

CONVERSE—CONVERSION.

with, as a friend with a friend; to convey thoughts and opinions in friendly intercourse; to have commerce or intercourse with a different sex: N. *kõn'vèrs*, familiar discourse or talk. CONVER'SING, imp. CONVERSED', pp. -*vèrst'*. CONVER'SABLE, a. -*să-bl*, ready or free to converse; sociable. CONVER'SABLY, ad. -*blĩ*. CONVER'SABLENESS, n. -*bl-něs*, disposition or readiness to converse; sociability. CONVERSANT, a. *kõn'vèr-sănt*, having frequent or customary intercourse; acquainted by familiar use, study, or intercourse. CON'VERSANTLY, ad. -*lĩ*. CON'VERSA'TION, n. -*să'shũn* [F.—L.]: familiar intercourse in speech; easy unrestrained talk; in *OE.*, manner of acting in life; behavior; commerce or intercourse with a different sex. CON'VERSA'TIONAL, a. -*ăl*, pertaining to conversation. CON'VERSA'TIONALIST, n., or CONVERSA'TIONIST, n. one who excels in. CONVER'SATIVE, a. -*să-tiv*, chatty; sociable.—SYN. of 'conversation': colloquy; conference; dialogue; discourse; intercourse; communion; talk; chat; familiarity;—of 'converse, v.': to commune; talk; speak; chat; associate.

CONVERSE, n. *kõn'vèrs* [F. *converse*, converse in logic—from L. *conversus*, a turning or twisting round—from *con*, *verto*, I turn about; *versus*, turned about]: in *logic*, a sentence or proposition in which the terms are interchanged, as putting the predicate for the subject, or *vice versâ*; in *math.*, a proposition in which, after a conclusion has been drawn from something supposed, the order is inverted by making the conclusion the supposition: ADJ. opposite; reciprocal. CONVERSE'LY, ad. -*lĩ*, in a contrary order; reciprocally.—CONVERSE and CONVERSION, in *logic*, signify that one proposition is formed from another by interchanging the subject and predicate: as, 'Every A is B;' the converse of which is, 'Every B is A.' This example is termed a case of *simple* conversion; besides which, however, logicians recognize two other kinds of conversion—viz., *limited* conversion, and conversion by *contraposition*. The former may be exemplified thus: 'Every A is B;' the limited converse of which is, 'Some Bs are As;' and the latter thus: 'Some A is not B;' which converted by contraposition, is, 'Something that is not B is A;' 'Some men are not wise; some beings that are not wise are men.' Of these logical converses, the second and third are *necessarily* true, but not the first. When we say, 'Every A is B,' the reader might at first sight conclude that 'Every B is A' also; but if, instead of these letters, to which he probably attaches no meaning, he employ terms denoting objects with which he is familiar, he will see that a simple converse may be far from the truth. Thus, 'Every penny is a coin,' has for its simple converse 'Every coin is a penny.' The reason why a simple converse is not necessarily true is, that in such a proposition as 'Every A is B,' the subject 'A' is—to speak logically—universally distributed, whereas the predicate 'B' is not. If it were, the proposition would read as follows: 'Every A is *every* B;' the simple converse of which, 'Every B. is every A,' would be true.

CONVERSION, n. *kõn-vèr'shũn* [F. *conversion*, conver

CONVERSION—CONVEX.

sion—from L. *conversionem*, an alteration, a change—from *con, versus*, turned about (see **CONVERT**): change from one state to another; a change of heart or disposition evidenced by a new course of life and love to God; change from one side, party, or religion to another.

CONVERSION, in Law: theoretical exchange of one kind of property for another, which under certain circumstances the law regards as having been made though no actual exchange takes place—known as equitable C.: or the unauthorized exercise of acts of ownership over the personal property of another—in practice called a *tort*. An illustration of an equitable C. is in the case of a testator directing his land to be sold and converted into money. The law regards the sale as having been made at the moment of his death, whether it was or was not. If, after contracting to sell, he should die before making a conveyance, his executors would be entitled to the money, and not his heirs. In case of an unauthorized act of ownership the owner of the property may (1) reclaim it, or (2) regard the other party as having become the owner and recover the value of it. A constructive C. takes place when the acts of a party over the property of another amount to a virtual appropriation of the property; and a direct C. when one party appropriates the property of another to his own or another's benefit, and alters its character in any way, or destroys it.

CONVERT, v. *kõn-vért'* [F. *convertir*—from L. *convertĕre*, to turn round—from *con, vertĕre*, to turn about: It. *convertere* (see **CONVERSION**): to change from one state to another; to turn from one religion, party, or sect to another; to turn to the service and love of God; to change from one use or destination to another. **CONVERT'ING**, imp. **CONVERT'ED**, pp. **CONVERT'ER**, n. one who: in *metal.*, spherical receptacle for iron which is to be converted into steel; it is lined with fire-clay and has a perforated bottom through which a powerful blast is driven; when the steel in it becomes liquid it is poured into molds. **CONVERT**, n. *kõn'vert*, one changed from one opinion, sect, or practice to another; one turned from sin to holiness. **CONVERT'IBLE**, a. *-tĭ-bl*, that may be changed or used for one another; susceptible of change. **CONVERT'IBLY**, ad. *-blĭ*. **CONVERT'IBIL'ITY**, n. *-bĭl'ĭ-tĭ*, the quality of being changeable from one condition or state to another. **CONVERTING-FURNACE**, a furnace for converting wrought-iron into steel: see **BLISTERED STEEL**. —**SYN.** of 'convert, v.': to change; turn; appropriate; transmute; alter; transform; reduce;—of 'convert, n.': proselyte; neophyte; pervert, in an opposite sense.

CONVEX, a. *kõn'veks* [F. *convexe*, convex—from L. *convexus*, vaulted or arched—from *con, vectus*, carried or borne]. vaulted or arched over; rising or swelling on the surface; rising in a circular or round form on the surface; opposite of *concave*, meaning hollow. see **CONCAVE**. **CON'VEXLY**, ad. *-lĭ*. **CONVEXED'**, a. *-vĕxt'*, made convex. **CONVEX'EDLY**, ad. *-ĕd-lĭ*. **CONVEX'ITY**, n. *-ĭ-tĭ* [F. *convexité*]: a roundness of surface. **CONVEX'O-CON'CAVE**, round on one side and hollow on the other. **CONVEX'O-CON'VEX**, round on both

sides. PLA'NO-CON'VEX, flat on one side and convex on the other.

CONVEY, v. *kŏn-vă'* [Norm. F. *conveier*; F. *convoyer*, to attend, to conduct—from OF. *voier*—from mid. L. *convĭārĕ*, to conduct—from L. *con*, *viă*, a way—*lit.*, to attend or conduct on the way]: to carry; to bear or transport; to pass or transmit, as a right; to transfer; to impart; to communicate; in *OE.*, to manage secretly; to play the thief. CONVEY'ING, imp. CONVEYED', pp. -*văd'*. CONVEY'ER, n. one who; in *OE.*, a juggler; an impostor. CONVEY'ABLE, a. -*ăbl*, that may be carried away, that may be transferred. CONVEY'ANCE, n. -*ăns*, the act of conveying or removing; the act of transmitting or transferring, as property; the deed which transfers anything to another, as property; the means of carrying a thing from place to place, as a wagon, a railway, a canal; in *OE.*, secret management. CONVEY'ANCER, n. -*ăn-sēr*, a lawyer employed to draw up writings (*conveyances*) by which property is transferred from one person to another. CONVEY'ANCING, n. -*ăn-sĭng*, the business of a conveyancer; the practice of drawing deeds or other writings for transferring the title of real property from one person to another.—SYN. of 'convey': to bring; bear; carry; fetch; transport; transmit; transfer.

CONVEY'ANCE, in Law: the deed or writing by which property is conveyed or transferred from one person to another. The term, though strictly applicable, is not generally applied to the act of transferring personal, or, as it is called in Scotland, movable property. As regards real or heritable property, for the more special nature of a C., and the consequent duties of the conveyancer, see FEE: FREEHOLD: COPYHOLD: LEASEHOLD: MORTGAGE: CHATTEL: BILL OF SALE: ASSIGNMENT: FEOFFMENT: DEED: COMMON FORMS: GRANT: TRUST: SETTLEMENT: USAGES: etc. For Scotch law, see FEU: SUPERIOR: VASSAL: WARDHOLDING: MORTIFICATION: BLANCH - HOLDING, under BLANCH FERME: BURGAGE-TENURE: CHARTER: SASINE: DISPOSITION. For the general nature of a C., and for the feudal system, with which the conveyancing of many European countries is still intimately connected, see CONVEYANCING.

CONVEY'ANCER: one who practices the art of preparing the deeds or writings used for the conveyance or transference of property from one person to another. In England, conveyancers are generally barristers, though there is also a special class of practitioners, known by the name of conveyancers, not called to the bar, but taking out an annual certificate. Nevertheless, deeds respecting real estate are also the ordinary work of an attorney or solicitor, and may be drawn indeed by any person, if he chooses to take the risk.

CONVEYANCING: art of preparing the deeds or instruments used for the transference of property from one person to another. Such writings form the title or evidence of the right of the person possessing or claiming possession of property; and it is of the greatest importance that the conveyancer employed to prepare them, should have competent knowledge of the law as applicable to such deeds, and have the skill to frame them in such form as clearly to express and attain the object. In the earliest stage of society, there was no call for the profession of a conveyancer; property was held in right of occupancy, without any written title, and was also conveyed from one to another without writing, the new owner being usually put in possession in presence of witnesses called for the purpose, by some symbolical form, such as the delivery of earth and stone to represent the land, a wand to represent wood, grass and corn to represent tithes, and other appropriate symbols to represent mills, fishings, or other kinds of property.

In the earlier period of the history of the Jews, the symbolical mode of changing the ownership of property was curious. 'Now this was *the custom* in former time in Israel concerning redeeming and concerning changing, for to confirm all things: a man drew off his shoe, and gave it to his neighbor: and this was the manner of attestation in Israel' (Ruth iv, 7). In later times, the Jews appear to have had a much more artistic system of C., with all the safeguards used in modern times—viz., writing, witnesses, subscribing, sealing, and recording the documents. There is a very distinct account of a Jewish conveyance in the later period in Jeremiah xxxii, 9—12: 'And I bought the field of Hanamel, and weighed him the money. And I subscribed the deed, and sealed it, and called witnesses. So I took the deed of the purchase, both that which was sealed according to the law and custom, and that which was open: and I delivered the deed of the purchase unto Baruch, in the presence of Hanamel [the seller], and in the presence of the witnesses that subscribed the deed of the purchase, before all the Jews that sat in the court of the guard.'

The Romans made no distinction in principle between real and personal, or movable and immovable property, in their conveyancing. Each kind of property was held free of any superior. Their deeds were therefore simple, not requiring any reservation or declaration of the superior's rights. They had public registers in which conveyances were recorded. After the invasion of the southern by the northern nations, the feudal system spread over nearly the whole of Europe, and C. was regulated in accordance with it; the rights of the superior and the rights of the vassal or proprietor being carefully distinguished. The *Leges Barbarorum*, contained in the Burgundian Code, and the Code of the Longobardi, embody the older feudal uses, from which the modern are derived. In the 7th c., a work of peculiar interest to the conveyancer was compiled by Marculfus, a monk, containing the germs of modern conveyancing. It is in substance a book of styles or forms of deeds, partly Roman and partly feudal. The genius of the system of

land-rights derived from the barbarians was to concentrate the property of land, for the sake of individual power; while the Roman laws and customs tended in the opposite direction, for they treated land in regard to succession like movables, as the French now do, dividing it among all the members of a family. Alienation by sale or gift was freely permitted a power long denied by the feudal rules. Indeed, feus or grants were originally revocable by the superior, and did not become hereditary till the time of Charlemagne.

Among the ancient Goths and Swedes, the conveyance of land was made in the presence of witnesses, who extended the cloak of the buyer, while the seller threw a clod of the land into it, as a symbol of the transference of possession. Among the Saxons, the delivery of a turf by the seller to the buyer was necessary. Written titles were, however, introduced at an early period, and at first were short and simple in form, but increased in length and complexity as civilization advanced, containing various conditions, provisions, and limitations, so that the art of the conveyancer became both difficult and laborious. He had not only to prepare the appropriate form of conveyance, but to examine the prior writings forming the title to the property, in order to judge whether they were in proper form and valid. As a general rule, a written title is now essential to the possession of real property in civilized communities; and if there is no written title, the property falls to the crown or state. In the Roman empire, extending over the greater part of Europe, the system of land-rights was allodial—that is, the lands were held independent of any superior: see ALLODIUM. After the irruption of the northern nations into Italy, the feudal system was introduced, by which the proprietor has only a limited right under a superior. The introduction of the feudal system tended to complicate written titles to land very much, as not only had the rights of the grantee or vassal to be expressed and defined, but those of the granter as overlord or superior, also. In the present century, the tendency is towards simplicity; and in France, the feudal system has been superseded by the Code Napoleon. In Great Britain and other countries still retaining the feudal system, the forms of C. have been much shortened and simplified. While the feudal system, on the one hand, increased the complexity of C., on the other hand it greatly lessened the number of conveyances. Under the Roman law, real property descended equally to all the heirs of a deceased proprietor, each heir requiring a written title to his own share; while the genius of the feudal law was to concentrate property in the heads of families, and the eldest son inherited the whole real estate of his ancestor; and alienation, by gift or sale, was long denied to feudal proprietors. Improvement in the science of law occasions improvement in conveyancing. Under the Roman empire, the art of C. had attained to much precision in the hands of the imperial notaries. After the fall of the empire, C. fell into the hands of ecclesiastical notaries; by them it was com

municated to the conveyancers of the church, who performed the duties of the conveyancer for some centuries, till after the revival of letters, when the art again passed to laymen.

The feudal system does not seem to have been generally introduced into Great Britain till after the conquest, though traces of it are found earlier. The inherent character of the feudal tenure is a grant of land made voluntarily by a king or leader, on the condition of the fidelity of the grantee, and military service. While, on the one hand, the superior was a protector to the vassal in time of trouble; on the other hand, the vassal was exposed to the cupidity and rapacity of the superior, whose right to casualties of feudal incidents enabled him to oppress his vassals. For these casualties or incidents, see FINE: QUIT-RENT: HERIOT: COPYHOLD: ESCHEAT: WARDSHIP: MARRIAGE. One of the most curious of these incidents was the last mentioned. A male heir was required to have the consent of his superior, and large fines were exacted for the consent. In the time of Charles I., the Earl of Warwick exacted £10,000—equal to a much larger sum now—for his consent to a lady-vassal marrying a husband in every respect suitable.

So long as feudal forms are retained, C. must be complex and expensive. Public opinion in England has latterly tended unmistakably toward a thorough abolition of the complex and expensive deeds required in the sale and mortgage of land, and the legislature has of late years done much toward this reform. Movable property is usually conveyed by delivery, but there are exceptions; thus, if it has been part of the bargain that the sale has to be completed by writing, the contract must be reduced to writing; and by statute, ships must be conveyed by a writing, which must be entered in the appropriate register, so as to show a change in ownership. See RECORD OF CONVEYANCE.

CONVICT, *v. kŏn'-vikt'* [L. *convictus*, proved guilty or wrong—from *con*, *victus*, vanquished or subdued]: to prove or find guilty of a crime charged; to convince of sin; to show or prove to be false: N. *kŏn'-vikt*, a person proved guilty of a crime by a court of justice; a felon. CONVICT'ING, *imp.* CONVICT'ED, *pp.*: ADJ. proved guilty; in *OE.*, condemned to destruction. CONVICT'ION, *n.* -*vĭk'shŭn* [F.—L.]: the act of finding or proving guilty; strong belief grounded on evidence; the act of making, or being made, sensible of sin or error. CONVICT'IVE, *a.* -*vĭk'tiv*, having the power to convict or make sensible of error. CONVICT'IVELY, *ad.* -*lĭ*. CONVICTISM, *n.* *kŏn'-vikt-ĭsm* [Eng. *convict*; -*ism*]: the convict system; the system of transportation of convicts to penal settlements.—SYN. of 'convict, *v.*: to detect; persuade; convince; confute; confound; prove;—of 'convict, *n.*: criminal; malefactor; culprit.

CON'VICT: one convicted of any criminal charge. The term came by custom to be applied to persons subject to punishment for the more serious class of offenses, and of late its meaning has become almost entirely restricted to the class of criminals who used to be transported to the distant

CONVICT.

colonies of Britain. These criminals are now condemned to penal servitude for longer or shorter periods, and are usually spoken of as convicts under penal discipline, while offenders sentenced to short periods of detention in the ordinary jails are called prisoners. For the earlier history of the treatment of convicts, see TRANSPORTATION. In the United Kingdom, the system of transportation to the chief penal colony, New South Wales, was suspended, 1840. Grave doubts had become prevalent as to the efficiency of the system, and all questions created by these doubts were solved by the refusal of the colonies to receive convicts, and the impossibility of disposing of them abroad, except in small numbers to the small district of W. Australia. It was thus necessary to solve the question, how these convicts could be treated at home in a manner consistent with the objects of punishment—the protection of the community, and the reformation of the offender to the extent to which that is practicable. Before this necessity occurred, considerable progress had been made in prison-discipline by arrangements which, without subjecting criminals to absolute silence or absolute solitude, separated them from the contaminating society of each other. It was naturally supposed that a system found beneficial for ordinary prisoners would suit convicts. But it was discovered that the discipline beneficially applied during a short period of imprisonment, could not be endured for a long period without physical and mental deterioration; and that the depression and anxiety created by their long sentences—sometimes for 20 years, sometimes for life—made convicts break down under it within the period for which it could be quite easily endured by ordinary prisoners. It is a fixed principle of prison-discipline, that while punishment may be made to any extent disagreeable, it is never to be permitted to injure either the body or the mind, unless such injury be unavoidable. It was found unsafe to subject male convicts to separate imprisonment for more than eight months; females, owing to some constitutional difference, are found to bear it without detriment for four months longer. At the end of eight months, then, or a year, as the case may be, the C. is gradually, so far as is consistent with safe custody, brought back into the habits of the freer population. It is usual to call the early stage of their discipline, the probationary, and the later, the reformatory. In the latter, they are associated under precautions and careful inspection, and are occupied in trades in which they may make their bread when free. Public works, such as the breakwater quarries, and fortress at Portland, and the works at Chatham and Portsmouth, afford a valuable outlet for C. labor. In such establishments may be seen a thousand men or more, with hammers, mattocks, axes, and all descriptions of formidable tools, working under the eye of their warders as quietly and systematically as ordinary laborers. There are establishments where, as far as possible, the same system is administered to females—as at Woking and the general prison for Scotland at Perth. The great hold by which the convicts are kept in order is the

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system popularly called the 'the mark system,' under which, by steady application to work, convicts earn a remission of part of their sentence. Conduct is not taken into account in assigning these marks, but on the occasion of any specific misconduct, a proportion of earned and registered marks is forfeited. The present C. establishments of the United Kingdom are: in England—Dartmoor, in which the great proportion are invalids; Portland, Portsmouth, Chatham, and Borstal, for males, in each of which there are public works; Pentonville, Parkhurst, Wormwood Scrubs, and Brixton, for males; Woking and Millbank for males and females; and Fulham, for females. In Scotland, the C. department of the general prison at Perth is occupied by a limited number of males for the first nine months of their sentence (after which they go to public works prisons in England), and by females for the whole period. In Ireland are Spike Island and Lusk for males; and Mountjoy for males and females. In the year 1884-5, 14,884 were received at British convict prisons, including 9640 who were undergoing sentences at the commencement of the year; 282 were discharged on expiration of sentence, and 1950 on license. See PRISONS—PRISON DISCIPLINE.

CONVINCE, v. *kõn-vĩns'* [L. *convincere*, to completely overcome—from *con*, *vĩncere*, to vanquish or subdue—*lit.*, to overcome completely]: to persuade; to satisfy the mind by evidence; to compel the mind by arguments to yield its assent; to convict; in *OE.*, to overpower or surmount. CONVIN'CING, imp.: ADJ. that persuades or satisfies the mind. CONVINCED', pp. *-vĩnst'*. CONVIN'CER, n. *-ser*, one who. CONVIN'CIBLE, a. *-vĩn'sĩ-bl*. CONVIN'CINGLY, ad. *-sing lĩ*, in a manner to leave no room for doubt.

CONVIVE, v. *kõn vĩv'* [L. *convivor*, I eat, I feast; *conviva*, a table-companion]: in *OE.*, to feast together; to entertain. CONVI'VING, imp. CONVIVED', pp. *-vĩvd'*. CONVI'VAL, a. in *OE.* relating to a feast; convivial.

CONVIVIAL, a. *kõn-vĩv'ĩ-ăl* [L. *conviv'ũm*, a feast—from *con*, *vĩvere*, to live: L. and It. *convivĩalẽ*, convivial]: relating to a feast; festive; social; jovial. CONVIV'IALIST, n. a person good-humored and social at an entertainment. CONVIV'IALLY, ad. *-lĩ*. CONVIV'IAL'ITY, n. *-ũl ĩ-tĩ*, the good-humor or mirth indulged in at an entertainment.—SYN. of 'convivial': sociable; festive; festal; gay; jovial.

CONVOICATION: see under CONVOKE.

CONVOCA'TIONS, in the Church of England: originally a synod of the clergy or the ancient ecclesiastical council of the archbishop; afterward incorporated into the English constitution of church and state, and endued with certain parliamentary privileges. Some writers distinguish between councils and C.—the former as being for spiritual purposes, and summoned without authority from the crown; the latter as being for civil purposes, and by command of the crown. The two, however, in process of time, especially after the Conquest, became gradually blended; C. made canons, and councils granted subsidies, and all distinction

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had disappeared before the Reformation. The circumstances attending the famous assembly at Northampton, 1282, in the reign of Edward I, helped to settle the form which C. have since assumed. In England, the provinces of Canterbury and York have each their convocation. Previous to the Reformation, these were sometimes convened into a *National Synod*; but since then, matters have usually been concluded in the C. of Canterbury, and transmitted to York for concurrence. A convocation consists of three elements.—1. The archbishop; 2. The bishops; 3. The clergy of the second order. They originally met in one assembly, but since the beginning of the 14th c. the clergy of the second order in the province of Canterbury have retired into a distinct chamber, presided over by a *prolocutor*, with officers and journals of their own. These two bodies are called the Upper and Lower Houses. In the Convocation of York the same distinction exists, but on the rare occasions of their meeting, the business has been generally conducted in one assembly. The archbishop has the sole power of summoning, presiding, and proroguing; he has also a veto upon all measures. He cannot, however, summon without authority from the crown. The Upper House is the proper *locus synodi*, where the bishops have a right to sit and vote, and before the reformation the mitred abbots had place there also. The Lower House consists of the lesser dignitaries, as deans and archdeacons, and the proctors sent by capitular bodies and by the parochial clergy. In Canterbury, the beneficed clergy only elect, and they send one proctor for each diocese; in York, all the clergy elect, and send one proctor for each archdeaconry. The Lower House deliberates on matters proposed by the archbishop; it may present petitions to the Upper House and state grievances, be with it in judicature on persons convened, and dissent from and so hinder the passing of any synodical act. The passing of subsidies in convocation ceased in 1665, and the records were destroyed in the fire of London in the following year. Meetings of convocation fell into abeyance from the political troubles caused by the Revolution of 1688. They have been revived with considerable advantage to the church, but their action has been and is greatly restricted. In Ireland, the C. of the four provinces formerly assembled at Dublin, all together, and were on the model of those in England. From the Union downward the Irish C. never assembled. Since the disestablishment, the legislative assembly of the Irish Prot. Epis. Church is called the General Synod. An act of parliament was passed 1663, for regulating the meetings of convocation in Scotland; but shortly after the Revolution of 1688, the Episcopal Church ceased to be the national church; and ever since, the meetings of the Presb. Church, embracing clergy and laity, have been called General Assemblies: see ASSEMBLY: SYNOD.

The position of the church of England as respects its C. is exceedingly anomalous, but is incidental to certain circumstances in the constitution and polity of the country. As essentially interwoven with the state, the church pos-

CONVOKE—CONVOLVULUS.

sesses no independent action; its articles, liturgy, organization as to benefices, etc., all are regulated by parliament while its discipline falls within the scope of the ecclesiastical courts, a class of tribunals apart from the ministering clergy. The church, therefore, in its capacity as an institution to teach certain doctrines of religion, is left little to do in the way of jurisdiction. It is further urged, as a reason for restricting the power of Convocation, that being purely sacerdotal, it might be apt to run into excesses, and put forth claims adverse to the prevailing tone of sentiment on religious matters; that, in short, as things stand, it is safer for the public to be under the authority of parliament than to be subject to the ordinances of a body of ecclesiastics. At the same time, it is generally allowed that some kind of reform is desirable, though how this should be effected in a manner satisfactory to all parties, is not evident. The convocation of Canterbury was prorogued 1717 as a sequence of the Bangorian controversy, and obtained no license from the crown for any transaction of business till 1861. In 1870 the Anglo-American Bible-Revision originated in this body. The convocations of Canterbury and York assemble annually at the opening of parliament, each keeping up its own distinctive customs. See Trevor's *Convocations of the Two Provinces*, Cardwell's *Synodalia*, and *Documentary Annals*; Lathbury's *History of the Convocation of the Church of England*.

CONVOKE, v. *kõn-võk'* [F. *convoyer*—from L. *convocāre*, to call together—from *con*, *vocāre*, to call: It. *convocare*]: to call together; to convene. CONVO'KING, imp. CONVOKED', pp. -*võkt'*. CON'VOCA'TION, n. -*kā'shũn* [F.—L.]: a meeting convened of clergy or heads of a university; a convention, synod, or council.—SYN. of 'convoke': to convene; summon; call; assemble;—of 'convocation': assembly; meeting; council; congregation; congress; diet.

CONVOLUTE, a. *kõn'võ lõt*, or CON'VOLU'TED, a. -*lõ'těd* [L. *convolutus*, rolled together—from *con*, *volūtus*, rolled: It. *convolto*; F. *convoluté*, rolled or curled]: rolled together; rolled upon itself or on another thing; twisted. CON'VOLU'TION, n. -*lõ'shũn*, the act of rolling or winding, as a thing on itself or one thing on another; a winding or twisting.

CONVOLVE, v. *kõn-võlv'* [L. *convolvěre*, to roll together—from *con*, *volvěre*, to roll]: to roll or wind together; to roll or twist one part on another. CONVOLV'ING, imp. CONVOLVED', pp. -*võlvěd'*.

CONVOLVULUS, n. *kõn-võl'vũ-lũs* [L. that which rolls or twines round (see CONVOLVE)]: the flower bindweed, an extensive and widely distributed genus of twining or trailing plants, ord. *Convolvulā'cěæ*; *C. arven'sis* and *C. sol'danel'la* are indigenous, and *C. tricolor* is the minor convolvulus of seedsmen.

CONVOLVULUS [Lat. *convolvere*, to twine together]: genus of plants, type of the exogenous nat. ord. CONVOLVULACEÆ. This order contains nearly 700 known species, herbaceous and shrubby; generally with a twining stem

CONVOY.

and milky juice; large and beautiful flowers; a 5-partite calyx; a monopetalous corolla, with regular 5-lobed and plaited limb; five stamens; the ovary free, with 1-4 cells and few ovules; the fruit a capsule, sometimes succulent. The plants of this order are very abundant in the tropics, but comparatively rare in cold climates. Many are cultivated as ornamental plants, particularly species of *Convolvulus* and *Ipomœa*. The acrid milky juice is often strongly purgative; and jalap and scammony are products of this order. Some species, however, have large farinaceous



Convolvulus:

α, part of stem with leaves and flower; *b*, a flower-stalk and flower, the corolla and stamens removed.

roots, capable of being used as food, of which the Batatas (q.v.), or Sweet Potato, is most important. A few are known by the name of BINDWEED. *C. arvensis* is a troublesome weed in some sandy soils, and *Calystegia sepium* in richer soils: the former has rose-colored fragrant flowers, the latter large white flowers. Both are ornamental; the latter is often planted to cover posts and trellises. *C. scammonia* yields scammony, and the root of *C. panduratus* is used as a purgative in the United States. *C. scoparius*, a shrubby species, native of the Canary Isles, yields one of the kinds of wood called Rosewood, which has a strong smell of roses.

CONVOY, v. *kõn-voy'* [F. *convoyer*, to attend, to escort—from mid. L. *convīārē*, to convoy—from L. *con*, *vīā*, a way (see CONVEY)]: to attend on the way for protection either by sea or on land, as war-ships accompanying a fleet of merchant-vessels in time of war; to accompany; to escort: N. *kõn'voy*, the protection of an attending force either on sea or land; the attendant protecting force; act of attending as a defense; that which is protected, as a fleet of vessels; an escort; in *military service*, a C. is, properly,

a train of wagons laden with provisions or warlike stores; the term, however, is applied also to the detachment of troops, or escort, appointed to protect such a train: in *O.E.*, conveyance. CONVOY'ING, imp. CONVOYED', pp. -voyed'.

CONVULSE, v. *kõn-vũls'* [L. *convulsus*, torn into several parts, convulsed—from *con*, *vulsus*, plucked or torn away: It. *convulso*; F. *convulsé*, subject to convulsions—*lit.*, to pluck or tear violently into parts]: to shake by violent irregular action, as in excessive laughter; to affect by irregular spasms, as in agony from grief or pain. CONVULSING, imp. CONVULSED', pp. -vũlst'. CONVULSION, n. -vũl'shũn [F.—L.]: any violent and involuntary contraction of the parts of the body, as in fits; any violent and irregular motion—used more frequently in the *plu.*: ADJ. suffering from convulsions, as a convulsion-fit. CONVULSIVE, a. -siv, that produces or is attended with convulsions; that is attended with a strong unrelaxed grasping; causing twitches or spasms. CONVULSIVELY, ad. -li. CONVULSIVENESS, n.—SYN. of 'convulse': to disturb; tear; rend; shake; agitate; — of 'convulsion': commotion; tumult; agitation; disturbance.

CONVULSIONARIES, *kõn-vũl'shũn-a-riz*, or CONVULSIONISTS: fanatical sect of Jansenists who sprang up in France about 1730. Their meeting-place was the churchyard of St. Medardus, in a suburb of Paris, where was the tomb of a certain Francis of Paris, who died 1727, and was reckoned very holy by the Jansenists on account of his extravagant asceticism. At this tomb, a multitude of people poured forth fanatical prayers, preachments, and prophesying. Miracles are also alleged to have been performed, for proof of which we are referred to a work written by M. Montgeron, a French senator, and entitled *La Verité des Miracles opérés par l'intercession de François de Paris* (Paris 1737). After 1731, the fanaticism of the C. increased to utter madness. 'They threw themselves into the most violent contortions of body, rolled about on the ground, imitated birds, beasts, and fishes, and at last, when they had completely spent themselves, went off in a swoon. In 1733, the king issued an order for the imprisonment of these fanatics, but it was found impossible to put a complete stop to the mischief. They took to predicting the downfall of the throne and the church, which prophecy the French Revolution appeared to fulfil. They were not much heard of in Paris after the middle of the last c., but have occurred in country-places at various times in the present century. They brought Jansenism into so much disrepute, that Voltaire declared the tomb of Francis the grave of Jansenism.

CONVULSIONS: form of disease frequently affecting infancy, in which the body is thrown into violent spasmodic contractions, the sensibility and voluntary motion being for a time suspended. A fit of C. may last from a few minutes to some hours, and may readily prove fatal, if not relieved within a short period. The first symptom observed is often a twitching of particular muscles or groups of muscles, and a change in the habitual expression or color of the face, with

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distension of the features, and turning of the globes of the eyes suddenly upwards. The fingers are sometimes clenched in the palm, and the feet turned inwards; sometimes, however, C. occur absolutely without warnings of this kind, and even in the midst of perfect apparent health. Their cause is usually to be found in some source of irritation, capable of producing fever if long continued; as, for instance, disordered dentition, worms in the intestine, whooping-cough, etc. Most epidemic fevers are also apt to be attended, in children, by C. in their early stages; and diseases of the brain and its membranes at every stage of their progress. C. are greatly promoted by bad ventilation and injudicious feeding, with deficient exercise; and a great part of the cure consists in discovering and removing the causes of the disease.

When a child is suddenly seized with C., or with a tendency to spasm, such as twitching of the features, or contractions of the fingers and toes, it should be placed at once in a very free current of air, with its feet toward the fire; the extremities should be kept warm, and a cold lotion may be applied to the head, especially if there is much flushing of the face; a little castor oil may be given if the bowels are confined; and if there is flatulence, the belly may be rubbed with a warm hand, or with some simple stimulating liniment, such as camphorated oil. Not much more can be done without medical assistance; but in the event of the case being very serious, and medical aid at a great distance, it might perhaps be right to take the risk of causing the child to inhale a little chloroform, great care being taken that plenty of air, also, is admitted to the lungs. The strictly medical treatment commonly consists in the administration of medicines adapted to the state of the bowels, with the application of cold to the head, and sometimes the inhalation of chloroform. Leeches and bleeding are very rarely useful, though too often employed.

C. are rare among horses and cattle. In young dogs, however, they frequently occur from intestinal worms, disordered digestion, or in connection with distemper or other debilitating diseases: they usually disappear when their special causes are removed.

CON'WAY: river in n. Wales, 30 m. long—noted for the bold romantic scenery along its higher, as well as the rich beautiful scenery along its lower course. It rises in a small mountain-lake where the three counties, Merioneth, Denbigh, and Caernarvon meet, and runs n.w., n.e., and n., past Llanrwst, Trefrhiw, and Conway, to Beaumaris Bay in the Irish Sea. It receives many rapid mountain streams. In the lower 12 m. of its course it is a large, winding, smooth stream, up which the tide flows, and is navigable for vessels of 100 tons. At Conway it is half a mile broad at spring-tides, which rise here 21 to 24 ft. The C. has been famous for its pearls since Roman times.

CONWAY, *kōn'wā*, or ABERCONWAY, *āb-ér-kōn'wā*: seaport town of Caernarvonshire, n. Wales, on the estuary of the Conway, here crossed by a fine tubular, and a suspen-

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sion bridge, 22 m. n.e. of Caernarvon. The town, triangular in form, is beautifully situated on a steep slope on the left bank of the Conway, and is surrounded by walls 12 ft. thick, with towers and battlements. The principal streets are well proportioned and regular, and contain several ancient houses. C. Castle, one of the noblest castelated structures in Britain, stands on a precipice overlooking the river. It was built by Hugh Lupus, Earl of Chester, and rebuilt 1283 by Edward I., to check the Welsh. Its walls are 12 to 15 ft. thick, with eight vast towers, four of which are surmounted each by a slender turret. In 1646, the parliamentary forces took the castle, but did not injure it; but after the Restoration it was dismantled by the Earl of Conway. The *Plâs Mawr*, 'Great Mansion,' is a noble pile erected 1585, in the Elizabethan style, with the exterior and interior profusely ornamented with figures, coats of arms, scrolls, etc. The harbor is dry at low water. Conway was an opulent town until the great plague in 1607 almost depopulated it. A Cistercian abbey was founded here by Llywelyn ab Jorwerth, Prince of N. Wales. Llywelyn the Great, and several other princes and illustrious persons, were buried in it. The Castle Hotel occupies its site. Pop. (1881) 3,179; (1891) 3,436.

CONWAY, *kõn'wā*, THOMAS, Count DE: 1733, Feb. 27—abt. 1800; b. Ireland: general. After receiving his education in France, he served in the French army till 1777, when he came to the United States, was appointed a brig.-gen. in the revolutionary army May 13, took part in the battles of Brandywine and Germantown, and joined the conspiracy to deprive Washington of the command of the army. Through the influence of the commander's enemies in congress, his promotion to maj.gen. was confirmed 1777, Dec. 14, in spite of Washington's disapproval and opposition. Soon afterward, the extent of his intrigues became known, and he offered a conditional resignation. He was informed that his resignation would be accepted without conditions, and was thus forced from the army. Gen.-Cadwallader challenged him to a duel for his action against Washington, and severely wounded him 1778, July 22. Returning to France he wrote Washington an apology, reentered the French military service, became a field marshal, count, and gov. of Pondicherry and the French colonies in Hindustan, and fled from France during the revolution of 1792.

CONY, or CONEY, n. *kõ'nĩ* [Gael. *coinean*: L. *cunic'ũlus*: F. *connil*: Ger. *kaninchen*]: old English name for the rabbit, but employed in the authorized and other versions of the Bible as the translation of a Hebrew word which certainly does not designate the rabbit. The C. of the Old Testament is with the greatest probability supposed to be the Daman (q v.) or ashkoko. The name C. is applied also to a simpleton. CONEY-CATCH, v. in *old slang*, to cheat; to practice cheating. CO'NEY-CATCH'ING, imp.: N. a cheating.

CONYBEARE, *kũn'ĩ-bār*, JOHN: 1692, Jan. 31—1755, July 13: b. Pinhay, Eng.: theologian. He graduated at

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Daman or Ashkoko : the Cony of the Bible.

Oxford, was ordained 1716, became a preacher to the king at Whitehall, master of Exeter College 1730, dean of Christ Church 1732, and bishop of Bristol 1750. He published numerous sermons which attracted wide attention, notably those on *Miracles* and on *The Mysteries of the Christian Religion*, and 1732 brought out his *Defense of Revealed Religion*, in answer to Matthew Tindal's *Christianity as Old as the Creation* (1730). This work has been greatly admired, and gave him large fame as a theologian.

CONYBEARE, WILLIAM DANIEL: 1787–1857; b. near London : geologist and divine. He graduated at Oxford 1811, became a fellow of the Royal Soc. 1819, and discovered the fossil remains of plesiosaurus, an antediluvian monster 1821. He made extended examinations of the coal-fields and other strata of Great Britain, and a number of important discoveries in the science of geology. In conjunction with W. Phillips he published *Outlines of the Geology of England and Wales*. He published also a course of theological lectures 1836, delivered the Bampton lectures 1839, and became dean of Llandaff 1845.

CONYBEARE, WILLIAM JOHN: d. 1857; son of William Daniel C.: English clergyman and essayist. He received a collegiate education, and became a fellow of Trinity College, Cambridge, and principal of the Collegiate Institution at Liverpool. He was also preacher in the chapel royal, Whitehall 1844. He published a religious novel entitled *Perversion: or the Causes and Consequences of Infidelity*, numerous essays, and his chapel royal sermons; and was associated with Rev. J. S. Howson in preparing *The Life and Epistles of St. Paul*, for which he made original translations of nearly all the epistles.

CONYZA, *kō-nī'za*: genus of plants of the nat. ord. *Compositæ*, sub-order *Corymbiferae*, of which one species, *C. squarrosa* (also known as *Inula conyza*), is of frequent occurrence through a great part of Europe. It has a stem two or three ft. high, downy ovato-lanceolate leaves, and yellow flowers. It receives the English names Fleabane and Ploughman's Spikenard, and has a strong peculiar smell, which is said to drive away fleas and gnats. In most of the languages of Europe, it bears names referring to this property.

COO—COOK.

COO, v. *kô* [imitation of the noise of doves: *OE.*, *vroo*: Dut. *korren*: Icel. *kurra*]: to cry as a pigeon or dove. COO'ING, imp.: N. an invitation, as by the notes of the dove COOED, pp. *kôd*.

COOEY, v. *kô-ê'* [an imitative word—from the cry of the aborigines]: to utter a peculiar whistling sound: N. a peculiar whistling sound uttered by persons in the woods or deserts of Australia in order to indicate to friends their exact position. COO'EYING, imp. *-î-ing*: N. the peculiar whistling sound, etc. COO'EYED, pp. *-îd*.

COOK, v. *kûk* [an imitation of the noise of boiling water: L. *coquĕrĕ*, to prepare by fire: Ger. *koch*, a cook; *kochen*, to boil]: to boil; to dress victuals for the table; to prepare for any purpose: N. one whose occupation is to dress food for the table. COOK'ING, imp. COOKED, pp. *kûkt*. COOK'ERY, n. *-ĕr-î*, the art of preparing victuals for the table: ADJ. pertaining to. COOKY, or COOKIE, *kûk'î* [Scotch]: a small cake or bun. BOOKS HAVE BEEN COOKED, business-books that have been altered and falsified with the view of deceiving.

COOK, *kûk*, CHARLES, D.D.: 1787, May 31—1858, Feb. 21: founder of Methodism in France. He was born in London, entered the Wesleyan Methodist ministry 1817, and was sent as a missionary to France 1818, beginning his labors in Normandy. He travelled extensively through France and Switzerland, and, possessing more than ordinary administrative ability, organized Methodism and established the Sunday-school and Bible Society. He worked in harmony with the reformed churches in France, but was frequently compelled to flee to Switzerland. D'Aubigne said he was to France, Switzerland, and Sardinia, what Wesley was in his day to England.

COOK, Captain JAMES: celebrated navigator: 1728, Oct. 27—1779, Feb. 14; b. Marton, in Yorkshire, England; son of an agricultural laborer. At first apprenticed to a haberdasher he afterward went to sea, and having spent some years in coasting-vessels, entered the royal navy, in which he soon rose to the rank of master. The charts and observations which he drew up as marine-surveyor of the coasts of Newfoundland and Labrador, introduced him to the notice of the Royal Soc., who offered him the command of an expedition to the Pacific Ocean, to make an observation of the transit of Venus over the face of the sun. C. immediately accepted the offer, and set sail from Plymouth 1768, Aug. 26, in the *Endeavour*, a small ship of 370 tons. The expedition arrived at Tahiti (or Otaheite, as he named it) Apr. 13 in the following year; and the transit was witnessed in a most satisfactory manner June 3. Leaving Tahiti July 13, C. visited New Zealand, which had not been touched at by Europeans for a century and a quarter; and after exploring the coasts for six months, sailed westward, reaching (1770, Apr. 19) New Holland, now Australia, which he called New South Wales, and took possession of in the name of Great Britain. Having explored a large portion of the coast, he steered for New

Guinea, passing between Australia and that Island, and thus proving, what had heretofore been doubted, that the two were distinct islands. Continuing his voyage by Java, Batavia, and the Cape of Good Hope, C. anchored in the Downs 1771, June 12. This voyage, besides vastly increasing geographical knowledge—one of the important results in this respect being, that it proved that neither Australia nor New Zealand belonged to the antarctic, or other southern continent at this time supposed to exist, and that to the northward of lat. 40° s. there was no continent—also added not a little to the sciences of botany and astronomy. A second voyage, for the discovery of what was then called the *Terra Australis Incognita*, which was now believed to lie in higher latitudes than had hitherto been explored, was undertaken by C. in the year of his return; and the expedition, consisting of two ships—the *Resolution* and the *Adventure*—sailed from Plymouth 1772, July 13. In capt. C.'s three years' navigation of the Pacific and Southern oceans on this voyage, he sailed upward of 20,000 leagues, and proved the non-existence of land of any extent between the 50th and 70th parallels. C. arrived in England again 1775, July 30. So admirable had been his arrangements for the health of his crew, that during the whole voyage he lost only one man by sickness; and so skilful his seamanship, that not a spar of any consequence was lost. C. wrote an account of his second voyage. The belief in a practicable North-west Passage, notwithstanding the failure of attempts extending over two centuries, still held possession of men's minds; and C. had no sooner returned from his second voyage, than he offered his services to the Admiralty, who had resolved on another effort for the discovery. They were gladly accepted, and C. determined to seek the passage by the way of Behring's Strait, instead of by Baffin's Bay and Davis' Strait, the routes formerly attempted. In his old ship, the *Resolution*, accompanied by Captain Clerke in the *Discovery*, C. sailed from Plymouth 1776, July 12. In this last voyage, C. met his death at the hands of savages, on the island of Hawaii, while endeavoring to recover a boat which had been stolen from the *Discovery*. Before this tragical event C. had made valuable additions to the geographical knowledge of the coasts of America and Asia, in the region of Behring's Strait. The news of his death occasioned deep and general regret in England. The king granted his widow a pension of £200, and each of his children £25; while the Royal Soc. did honor to his name, by having a gold medal struck in his commemoration. C. was one of England's greatest navigators. A practical and scientific seaman, he was also a sagacious, self-possessed commander, kind though strict to his crew, and marked by indomitable perseverance and ready decision.

COOK, MOUNT: highest peak of Australasia; one of the s. Alps in the South Island of New Zealand; 14,000 ft. high, covered with perpetual snow. It is difficult of access, and was scaled for the first time 1882.

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COOK, ZEBEDEE: 1786, Jan. 11—1858, Jan. 24; b. Newburyport, Mass.: underwriter. He was educated for a mercantile career and while following it gave much thought to the general system of insurance. He engaged in that business in Boston, 1815, was among the first to introduce into this country the system of mutual insurance, and 1822 became pres. of the first company organized on that plan, the Eagle Insurance Co. of New York. He was one of the founders of the Mass. Horticultural Soc., and its pres. 1834, introduced the Isabella grape into New England, and was a member of the Mass. legislature, 1835-39.

COOKE, kúk, JAY: 1821, Aug. 10—1887, July 15; b. Sandusky, O.: banker. He removed to Philadelphia 1838, entered the banking-house of E. W. Clark & Co., became a partner 1842, retired 1858, and established the house of J. C. & Co. 1861, which became the agent for placing the war loans of the govt. through the influence of the late S. P. Chase, a personal friend of Jay C. His success in negotiating the loans was of the highest public value at the time, and did much to aid the prosecution of the war. The firm subsequently became the financial agent of the Northern Pacific railroad, and through this connection was forced to suspend 1873; this act more than any other cause occasioned the financial panic of that year. Mr. C. afterward resumed business in Philadelphia and retrieved much of his lost fortune.

COOKE, JOHN ESTEN: 1830, Nov. 3—1886, Sep. 27; b. Winchester, Va.: author. He attended school till his 16th year, then studied law with his father, was admitted to the bar, practiced four years, then entered on a career of literature. He served in the artillery and cavalry branches of the Confederate army, 1861-64, and at Lee's surrender was inspector-gen. of horse artillery. His published works, which include biography, history, war narratives, and stories of Va. life, number 30 vols., the first appearing 1854 and *The Maurice Mystery*, the last, 1885.

COOKE, ROSE (TERRY): author: 1827, Feb. 17—1892, July 18; b. West Hartford, Conn., daughter of Henry W. Terry. She finished her education in Hartford, and taught there, also in N. J., after she was 16 years old. Her first writings were in verse for newspapers and periodicals; these attracted immediate attention, and she became a regular and valued contributor of verse and prose to *Harper's Magazine*, the *Atlantic Monthly*, *Putnam's Monthly*, etc. She married, 1872, Rollin H. Cooke, and resided in Winsted, Conn. She wrote *Happy Dodd* (1879); *Somebody's Neighbors* (1881); *The Sphinx's Children* (1886), and many other works.

COOKERY.

COOK'ERY: art of preparing food for the table, by heat. In ancient times, the occasion of a banquet appears to have arisen chiefly in a sacrifice to the gods, when a part of the victim was brought to the dwelling of the sacrificer, and was cooked for the feast. Birthdays, funerals, and victories also were celebrated in this manner. 'The Persians,' says Herodotus, 'were accustomed to honor, above all others, that day on which they were born, when the rich among them would sacrifice an ox, a horse, or a camel, which they roasted whole in ovens, while the poorer class gave only the smaller animals, as sheep. Yet the Persians were not great eaters of meat, but consumed much sweet food, and did not use salt.' The appendages to the higher order of banquets were most magnificent, and in quantity and display very expensive. Herodotus says on this head, 'that the Greeks who invited Xerxes to supper all came to the extremity of ruin; and that, wherever he took two meals, dining as well as supping, that city was utterly ruined.'

The Egyptians, it is said, were great bread eaters. Though they possessed wheaten-flour of the finest sorts, they do not appear to have used it for their common bread, which was made of spelt, or of the centre of the lotus dried and pounded. Fish they salted and dried in the sun; quails, ducks, and small birds they salted and ate raw. We read of their roasting and boiling the flesh of the ox. Large flocks of geese and of fowls were kept by them for use at table, hence their plan for the artificial hatching of eggs. 'Fish was used by all classes except the priests, but the staple food of the people consisted of vegetables, of which they had a large supply.' Herodotus mentions their making beer from barley, which they called *lythus*. We may still see the form in which their food came to table: ducks, loaves made round, and some biscuits and cakes, which have been taken from Egyptian tombs, are in the British museum. Apollonius, who wrote a treatise on the feasts of the Egyptians, says that they ate in a sitting posture, using the very simplest and most wholesome food.

There appears to have been considerable difference as to the manner in which good eating was appreciated in different parts of Greece. The Athenian meals are ridiculed by the comedians for their parsimony. After the Homeric age of simplicity, in which roast and boiled meat seems to have sufficed the kingly table, a diversity of preparation was obtained in cooking, and certain epicureanism displayed in the quality, seasoning, and method of dressing food. The names of many authors of C. books are preserved in the writings of Athenæus; that of Archestratus, who is called the guide of Epicurus in his pleasures, and styled the inventor of made dishes, being the most renowned.

Fish was a principal article of food with all classes of Greeks; but with the wealthier, much skill and delicacy were used in cooking it, and choice and expensive sorts were sought. Archestratus writes of 'a boiled torpedo

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done in oil and wine, and fragrant herbs, and some thin grated cheese.' Fish, stuffed with forcemeat and fried, boiled in pickle, baked in fig-leaves soaked in oil, cooked in hot ashes, etc., are among the recipes recorded. Large quantities of salt-fish were brought from the shores of the Euxine and the Hellespont; and this, with meal, cheese, and onions, was the chief food of the armies and navies on service. The Greeks boiled and roasted the flesh of sheep, pigs, lambs, and goats. They had poultry, small birds, and game, and sausages made of blood, partaking of the character of black-puddings. The bread made at Athens was the most celebrated; it was sometimes household, but chiefly bought in the market, and was made in great variety, as pan-loaves, rolls, sweet loaves, etc. The bread eaten by the poorer classes was made of barley, and sometimes flavored with oil, honey, poppy-seed, etc. Athenian cheese-cakes also were famous; and they had honey and sesame-cakes, which, with fresh and dried fruits, as figs, almonds, olives, and nuts, seem to have been partaken of after dinner. They consumed vegetable food also in abundance, and had cabbage, onions, lettuce, etc.

In the Greek house there was no regular cook, though in the establishments of the wealthy several women were kept, to attend to the kitchen. The women, in general, saw to the requirements of the table, and even the lady of the house was not idle. Cooks stood in the market at Athens, ready to be hired for particular occasions; the most celebrated were those of Sicily; they were probably persons of some importance.

To roast some beef, to carve a joint with neatness,
To boil up sauces, and to blow the fire,
Is anybody's task; he who does this
Is but a seasoner and broth-maker;
A cook is quite another thing. His mind
Must comprehend all facts and circumstances:
Where is the place, and what the time of supper;
Who are the guests, and who the entertainer;
What fish he ought to buy, and where to buy it.'

Quoted by Athenæus from Dionysius, a comic poet.

In the early days of Rome, a gruel made of barley, and called *puls*, was the principle food of the people, and with green and other vegetables was, till later times, the usual fare of the inferior classes—meat being used sparingly. By degrees, however, came a taste for better eating; and after the Asiatic conquests luxury was imported. Lucullus introduced habits of epicureanism after his return from Asia; the gourmand Apicius earned for himself a deathless name. The wealthy Romans cared for the elegant serving of their table, as well as for the quality of viands placed before them. With them, as with the Greeks, fish was a necessity as well as a luxury: they took much trouble to procure their oysters, and gave large sums for other fish. We read of a mullet of six pounds sold for 8,000 sesterces (abt \$350), and of the rhénous or turbot from Ravenna being held in high estimation. They seem to have been as clever as the French in preparing *surprises*, and in carrying out *disguises* in their dishes. The *pistor*, who made the bread and pastry, and

the *structor*, who composed artificial figures of fruit or flesh, and who also arranged the dishes, seem to have shared the duties of the cook. We read of dainties, as ring-doves and fieldfares, hares, capons, ducks, peacocks, pheasants, and the livers of geese; also of such a formidable *pièce de résistance* as a 'huge boar, surrounded with sucking-pigs made in sweet paste, which were distributed among the guests.' The Romans prepared and cooked their food with oil to a great extent. Their meals probably consisted of two courses and a dessert, the first course being of materials intended to sharpen the appetite, and the second the 'brunt of war,' that is, a joint roasted or baked. The discovery or cultivation of vegetables, perhaps, gave rise to some proper names, as Lentulus, Fabius, etc. It is a Roman saying, that the number of persons at a repast should not be less than that of the Graces, nor more than that of the Muses. The Greeks and Romans used honey for the purposes for which we use sugar. The sugar-cane probably was cultivated in China, and its manufacture understood there; but the Greeks took it for a kind of concrete honey, and used it only for medicinal purposes.

Of ancient British C., nothing is known; it was probably extremely rude. Hares, poultry, and fish are said to have been forbidden as food. We do not find much mention of the art of C. in the Saxon chronicles. The Danes and Germans appear to have been great drinkers, and to have paid little attention to the preparation of their eatables. The Normans were more careful in these matters; some offices among them were held in right of the kitchen. In early English C. much use was made of the mortar. Oil and lard were used instead of butter. Several English C. books bear an early date, as *The Forme of Cury*, by Mr. Pegge, 1390; and others date as follows: Sir J. Elliott's book, 1539; Abraham Veale's, 1575; *The Widdowe's Treasure*, 1625.

The C. of France was probably imperfect and rude, till the introduction of Italian tastes by the princesses of the House of Medici. The ancient use of oil was modified by the discovery made by the French, of dressing meat in its own gravy. In our own day, there is no denying that the French cook is a true artist. We may, if we please, impute the trouble he takes with the dressing of his meat to the inferiority of the material, but this can be said of meat only; the preparation of vegetables and fruits, which in France are of fine quality, is attended to with equal care. The great difference between French and the usual English and American C. consists in the fact. that they cook their meat much longer, considering that this renders it more digestible. They are thereby enabled to multiply dishes by altering or annihilating the original taste of the meat, and making it a vehicle for foreign flavors. The variety, daintiness, and grace of form which dishes thus acquire, is advantageously made use of by other nations when they admit such dishes to mingle with the heavier joints. But the English and American tastes prefer the integrity of the form and flavor of meats, considering that to be *overcooking* which the French think only sufficient. In economy, the French have a de-

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cided superiority. The French cook throws nothing away. Instead of going to the butcher for meat for stock, he uses the trimmings for stock and glaze, and the skimmings of his boiled meats for purposes to which we apply butter or lard; and like a true workman, he produces great results from small means. This requires an education which few mistresses demand and few cooks obtain, but which, when achieved, justifies the expression of Voltaire:

Qu'un cuisinier est un mortel divin!

The estimation in which the services of a cook are held, may be known by the large salary attached to the office in great families, hotels, and club-houses. A visit to the kitchens of one of these establishments shows what a highly important post is that of *chef de cuisine*. There must be in such a person not only the necessary knowledge how things are to be done, but the power to organize and direct the work of the numerous assistants, as to the exact part they must fulfil at each moment of their long and busy day. These places, indeed, are excellent schools for cooks, where they can undergo that severe training, without which a thorough practical knowledge of the business cannot be attained. It is indeed to be regretted—because a source of so much disappointment, discomfort, and waste—that a knowledge of plain C., at least, is not more desired by mistresses for themselves. That acquirement, and household management generally, are important enough to be made part of the education of all classes. The poorer would thereby be enabled both to lay out their money profitably, and to prepare their food so that it might satisfy and nourish them; and the heads of establishments in the upper classes would be more in a position to direct, appreciate, or criticise the performance of the cook. A cultivated and elegant taste is as much shown in the arrangement of viands as in the furnishing and decoration of the choicest boudoir.

The art of C., as a branch of female education, has latterly engaged considerable attention; and there are in various cities establishments where young ladies receive this kind of instruction. Recently, a school of cookery has been attached to the South Kensington Museum, London. Cookery-classes are popular among young ladies in the United States. Efforts are made to teach C. also to the humbler classes of girls, but much in this respect remains to be done. For any shortcomings in cooking, however, the taste of the English, inherited to some degree in America, is in some measure accountable. The general practice of roasting large pieces of meat, which cannot be consumed while hot, causes no little waste, and is obstructive of improvement. The Scotch—who derive some part of their C., with many other usages, from the French—deal more in soup and boiled meat than the English, and their processes, while not less savory, are perhaps more economical.

Among many excellent books on C. are Miss Acton's *Cookery Book*, Webster and Parke's *Encyclopædia of Domestic Economy*, Mrs. Beeton's *Household Management*, also Soyer's work, and Francatelli's; *Meg Dods's Cookery* also is

COOK ISLANDS—COOKMAN.

excellent; and Miss Parloa's books are among the latest and the best. For cheapness and simplicity, Chambers's *Cookery for Young Housewives* (1s.) is commended: see FOOD: BOILING: ROASTING, etc

ARMY COOKERY.—During the Crimean war, 1854-5, M. Soyer was sent out by the Brit. government to improve the miserable system of hospital and camp C., so far as military routine would allow. He devised new forms of stove, and constructed recipes for using to the best advantage all the available provisions for a camp. The officers at Sebastopol made a highly favorable report of Soyer's *field-kitchen*, a kind of camp-stove, with a caldron holding 12½ gallons: two such stoves would easily cook for a company of 100 men; both could be carried by one mule, with sufficient dry wood for three days' fuel. Though intended mainly for boiling, the apparatus afforded facilities for many varieties of cooking. When M. Soyer returned to England, he made a few improvements; and finally the apparatus presented itself as a sort of upright can, suitable for boiling, steaming, baking, roasting, stewing, and making tea or coffee; with 14 lbs. of fuel, one of these would cook for 50 men; and if 20 such stoves were placed near together, four cooks could serve for 1,000 men.

A committee which inquired on the subject of barrack economy some years ago, recommended that every large barrack should have a bakery with two ovens, where the men could learn to make and bake their own bread, and that the barrack-kitchens should be so furnished as to enable the men to bake their meat if so inclined, instead of being confined, as heretofore, almost wholly to boiled dinners. A school of cookery has been formed at Aldershot, where men are trained to act as sergeant-cooks, of whom there is now one to each regiment. His duty is to superintend and direct the operations of the soldiers detailed from the several companies to act as cooks.

Numerous forms of apparatus have been invented for baking and cooking food in the field. Several of them are based on modifications of Papin's Digester; such as the compressed steam cooking-pot of Captain Warren. Steam baking-ovens also have been successfully used; and apparatus has been devised for cooking while *the kitchen itself is on the march*. Similar improvements have been introduced in the U. S. military service.

COOK ISLANDS, otherwise known as the Harvey Archipelago. visited rather than discovered by the navigator whose name they bear, during his first voyage. They lie about midway between the Society and Navigator groups, near lat. 22° s. and long 158° w. The principal members of the cluster are Mangeia, Atiou, Harvey, and Raratonga. The natives, estimated at about 15,000, have been generally converted to Christianity; Raratonga, in particular, being one of the most successful missions in Polynesia.

COOKMAN, *kák'man*, GEORGE GRIMSTON: 1800, Oct. 21—1841, Mar.; b. Hull, England: clergyman. He re-

COOK'S INLET—COOL.

ceived an academical education, came to the United States 1823, was engaged sometime as a local Meth. preacher, returned to England for a business career, and again removed to the United States 1825. He joined the Philadelphia Meth. Epis. conference 1826, and preached with great success in Penn., N. J., Md., and the D. of C.; was twice elected chaplain of congress, and preaching every Sunday morning in the hall of the representatives, attracted large audiences. He sailed for England 1841, Mar. 11, on the steamship *President*, which was never heard from again.

COOK'S INLET: gulf of the Pacific on the n.w. coast of America, between Prince William's Sound and Bristol Bay; lat. 58° — 61° n., long. 151° — 154° w.; explored by Capt. Cook 1778 in the vain hope of finding passage through it into the Arctic sea.

COOK'S STRAIT: discovered by Capt. Cook on his first voyage. It separates the n. and s. islands of the New Zealand group, and varies from 80 to 100 m. in width. This discovery dissipated the popular belief that New Zealand, as previously known, was merely a salient point of a great southern continent.

COOKS'TOWN: town in the county of Tyrone, Ireland, 23 m. e.n.e. of Omagh. It consists of one very long and broad street, shaded with trees. It has a linen trade. Pop. (1881) 3,870; (1891) 3,841.

COOKTOWN: town, founded 1873, on the extreme n. of Queensland 1,050 m. n. of Brisbane; one of the chief ports of the colony. There are already handsome banks, schools, and public buildings. Near there are gold diggings and iron mines, and fisheries of *beche de mer*. Pop. (1891) 3,500, of whom 3,360 are Chinese.

COOL, a. *kól* [Icel. *kula*; Dut. *koel*, a cold blast; Ger. *kühl*; Dan. *køl*, cool, fresh]: moderately cold; not excited by passion of any kind; not hasty; not retaining heat; indifferent; self-possessed; quietly impudent: N. a moderate state of cold; freedom from heat or warmth: V. to make moderately cold; to lessen heat; to allay passion of any kind; to moderate; to become indifferent; to make indifferent; to become less hot, angry, zealous, or affectionate. **COOL'INE**, imp. **COOLED**, pp. *köld*. **COOL'ER**, a. less hot. N. that which cools; a vessel in which liquors are cooled: see **BEER: DISTILLATION**. **COOL'LY**, ad. *-lī*. **COOL'NESS**, n. moderate degree of cold; indifference. **COOL'ISH**, a. somewhat cool. **COOL-HEADED**, not easily excited; free from passion. **TO BE KEPT COOLING ONE'S HEELS**, to be kept waiting long.—**SYN.** of 'cool, a.': cold; frigid; gelid; calm; dispassionate, self-possessed; composed; impudent, repulsive; alienated; deliberate; chilling.

COOLEY.

COOLEY, *ko'lee*, LE ROY CLARK: chemist: b. Point Peninsula, N. Y., 1833, Oct. 7. He graduated at Union College 1858; took a scientific course there directly afterward; was prof. of natural sciences in the N. Y. State Normal School 1861-74; and became prof. of physics and chemistry in Vassar College 1874. He has published *A Text-Book of Physics* (1868); *A Text-Book of Chemistry* (1869); *Easy Experiments in Physical Science* (1870); *Natural Philosophy for High Schools* (1871); *Elements of Chemistry for High Schools* (1873); *The Student's Guide-Book and Note-Book* (1878); *The New Text-Book of Physics* (1880); *The New Text-Book of Chemistry* (1881); and *The Beginner's Guide to Chemistry* (1886).

COOLEY, THOMAS MCINTYRE, LL.D.: lawyer: b. Attica, N. Y., 1824, Jan. 6. He removed to Adrian, Mich., 1843; was admitted to the bar there 1846; practiced at Tecumseh, Mich., till 1848, when he settled in Adrian; was for some time editor of the *Watch-Tower* newspaper; and 1857 was designated by the state to be the compiler of its general statutes. During 1858-65 he was the reporter of the state supreme court; 1859 was appointed prof. of law in the Univ. of Mich.; 1864 was elected a judge of the state supreme court to fill a vacancy; 1869 was re-elected for the full terms expiring 1877 and 85; and 1868-9 was chief justice of the court. In 1881 he was chosen prof. of constitutional and administrative law in the newly established School of Political Science in the Univ. of Mich., and subsequently became prof. of American history, lecturer on constitutional law, and dean of the scientific school in the univ. 1886, Dec. 16, he was appointed by Judge Gresham, of the U. S. circuit court, receiver of the Chicago division of the Wabash railroad system covering the lines in Ill. and Ind., and a few days afterward was appointed by Judge Walker, of the U. S. district court, receiver of the lines within O. 1887, Mar. 22, he was appointed by Pres. Cleveland chairman of the interstate commerce commission, established by act of congress approved 1887, Feb. 4, and resigned 1891, Sept. 4. C. received his degree from the Univ. of Mich. 1873. He has published a *Digest of Michigan Reports* (1866); *The Constitutional Limitations which Rest upon the Legislative Power of the States of the American Union* (1868: 71); editions with notes of Blackstone's *Commentaries* (1870); and Story's *Commentaries on the Constitution of the United States* with original chapters on the *New Amendments* (1873); *The Law of Taxation* (1876); *The Law of Torts* (1879); *General Principles of Constitutional Law in the United States* (1880); and *Michigan: A History of Governments* (1885); and, with others, lectures in *Constitutional History of the United States, as Seen in the Development of American Law* (1889). He also prepared nearly all the legal articles in Appleton's *American Cyclopædia* (1873-6). D. 1898, Sept. 12.

COOLIDGE—COOMB.

COOLIDGE, SUSAN : see WOOLSEY, SARAH CHAUNCEY.

COOLIE, or COULIE, n. *kō'li* [Hind. *kūli*, a laborer]: East Indian porter or carrier; a day-laborer. Originally, one of the aboriginal or hill tribes of Hindustan had the name of coolies. The term C. is now used to denote emigrant laborers from India and China to tropical and other countries. The 'coolie trade,' as it was called, rose with the decline of the slave trade, and was an attempt to supply the place of the emancipated negroes with a class of laborers equally as cheap. The movement of Indian coolies began toward the close of the last century, but was confined to the Straits Settlements, Ceylon, and the neighboring islands, and has never attained great proportions in the western hemisphere. The Chinese coolie trade began in 1847 with the shipments of coolies to Cuba and Peru, each C. being bound to eight years' service, nominally at about \$4.00 a month and clothes and food. The abuses which sprang up in the trade rival the worst of the negro slave trade; and of the 4,000 coolies who were sent to the guano pits of Peru to 1860 not one ever escaped alive. In 1855 the trade was partially suppressed by the English governments in the East, but was carried on with greater energy by the Spaniards and Portuguese until 1866, when an agreement between England, France, and China imposed regulations on the traffic which checked it. The United States, the British Australian colonies, and British Columbia have passed severe restrictive measures against the C. trade. See CHINESE EXCLUSION ACT.

COOM, n. *kôm* [Ger. *kahm*, mold: comp. F. *écume*; OF. *escume*, foam]: refuse matter such as collects in the boxes of carriage-wheels, or at the mouths of ovens; soot; coal-dust; culm: see CULM 2.

COOMASSIE, *kó mās'si*: capital of the kingdom of Ashantee, w. Africa; about 120 m. n.n.w. of Cape Coast Castle; in lat. 6° 35' n., long. 2° 12' w. C. occupies the side of a rocky hill, and is about four miles in circuit. The walls of the houses are mostly of stakes and wattle-work, the interstices filled up with clay; the roofs are of palm-leaves. The king's palace is here. C. was captured and burned, 1874, during the war with Great Britain: see ASHANTI. Pop. stated by natives, 100,000; but other reports, including observations during the war, say 20,000.

COOMB, n. *kôm* [F. *comble*, heaped measure: Dut. *kom*, a trough]: a dry measure of four bushels, used in England.

COOMB, or COMBE, n. *kôm* [W. *cwm*, a hollow between two hills: Ir. *cumar*, a valley]: in *phys. geog.*, a valley or depression, generally without a stream; a hollow on a hillside.

COOMBS, *kômz*. LESLIE: soldier, lawyer, and orator: 1793, Nov. 28—1881, Aug. 21; b. near Boonesboro, Clark co., Ky.; son of a revolutionary soldier who removed from Va. to Ky. 1782. In the war of 1812 C. was employed in important and perilous services as bearer of dispatches and as spy, and was wounded at Fort Miami. He entered the profession of law 1816, and soon became eminent. In 1836 he was made col., having raised a regt. at his own expense to aid Texas in gaining independence. He held various public offices in his state, and was a prominent and powerful speaker in aid of his old commander Gen. William H. Harrison in his campaign for the presidency. Gen. C. was always an earnest Union man; and as a whig he made many speeches in the n. and e. states 1844 in support of his friend Henry Clay for the presidency. A body of loyal Kentucky soldiers which he, with Gen. Lovell H. Rousseau, had organized, did excellent service in the war for the Union.

COOP, n. *kóp* [L. *cupa*; F. *cuve*, a tub, a cask: Iccl. *kúpa*, a cup, a bowl: It. and Sp. *cuba*, a hen-coop: AS. *cofa*, a chamber]: a box barred on one side for confining fowls; a pen; an inclosed place for animals; a barrel or cask: V. to confine in a coop or in a narrow compass. COOPING, imp. COOPED, pp. *kópt*. COOPER, n. *kúp'ér*, one who makes casks or barrels. COOP'ERAGE. n. *-áj*, the workshop of a cooper; the art of a cooper; the price paid for cooper's work. COOPER'S HAMMER, a hammer with a narrow pane, whose length is in the line of the motion of the hammer; used for battering and flaring an iron hoop to fit the bulge of a cask; also called a flue-hammer. COOPER'S PLANE, a long plane set in slanting position, sole upward, upon which staves are jointed; a jointer. To COOP UP, to confine in a small or limited space, as if in a barrel.

COOPEE, n. *kópē* [F. *coupé*—from *couper*, to cut]: a motion in dancing.

COOPER, ANTHONY ASHLEY: see SHAFTESBURY.

COOPER, *kóp'ér*, Sir ASTLEY: English surgeon: 1768, Aug.—1841, Feb. 12; b. Brooke, in Norfolk, where his father was a curate. In his 16th year, he went to London, and placed himself under the tuition of Mr. Cline, one of the most noted surgeons of his day. He applied himself with ardor to his profession, and was a constant attender at the dissecting-rooms, and also at the lectures of the famous John Hunter. In 1787, C. was appointed demonstrator of anatomy at St. Thomas's Hospital; in 1792 prof. of anat. at Surgeons' Hall; and 1800, surgeon to Guy's Hospital. In 1813, he received the professorship of compar. anat. in the College of Surgeons. Meanwhile, C. had been enriching medical literature by various contributions, e.g., an essay on the effects resulting from destruction of the *membrana tympani*, which gained 1802 the Copley medal of the Royal Soc. In 1804-07 appeared his great work on *Hernia*, with illustrations mostly of life-size, a contribution of the utmost value to medical science, though not pecuniarily profitable to himself. The practical part of his profession was not neglected during

this time. He was the first to attempt the tying of the carotid artery, an attempt unsuccessful in his hands, though effectual with later practitioners. His annual income, which in the fifth year of his practice was only £100, had in 1813 risen to £21,000, then perhaps the largest sum ever received by a surgeon. In 1817, he tried what has been considered the boldest experiment in surgery, the tying of the aorta—unsuccessful then and since. In 1820, C. removed a steatomatous tumor from the head of George IV., who marked his appreciation of the operation by conferring on C. a baronetcy. In 1827 he was elected sergeant-surgeon to the king, and 1830 was made vice-pres. of the Royal Soc. Other honors flowed in upon him. He was made a member of the French Institute, D.C.L. of Oxford, and LL.D. of Edinburgh. Ever busy with his pen as with his knife, in 1822 he published a valuable work on *Dislocations and Fractures*. His treatise on the *Anatomy and Diseases of the Breast* (1829–40) was characterized by his usual care, research, and originality, as was his *Anatomy of the Thymus Gland*, 1832. A colossal statue to his memory is in St. Paul's Cathedral, London. As a teacher, C. had the faculty of communicating knowledge; and he elevated medical surgery, whose operations before his time have been described as a series of 'frightful alternatives, or hazardous compromises,' into a science.

COOPER, EDWARD: merchant and metallurgical engineer: 1824, Oct. 26—————; b. New York; son of Peter C. After a partial course at Columbia College he and his brother-in-law Abram S. Hewitt entered the firm Cooper, Hewitt & Co. The successful Trenton Iron Works and the New Jersey Iron & Steel Works were conducted largely under his careful and scientific supervision. He was prominent in democratic politics, being one of the committee of 70 which wrought the overthrow of the Tweed ring; mayor of New York 1879–81; and a member of the Cooper Union board of trustees.

COOPER, GEORGE HENRY: naval officer: 1821, July 27—1891, Nov. 17; b. Fort Diamond, New York harbor. He became a midshipman 1837, served on the frigate *Constitution* with the Pacific squadron 1838–42, and was promoted past midshipman 1843, June. He served during the Mexican war, was commissioned lieut. 1851, commander 1862. During the civil war he commanded the *Mercedita* of the S. Atlantic blockading squadron, the monitor *Sangamon*, the *Sonoma*, *Glaucus*, and other vessels. He was commissioned capt. 1867, Dec., and promoted commodore 1874, June, rear-admiral 1881, Nov. He was commandant of the Brooklyn navy yard 1880–82, and was placed on the retired list 1884.

COOPER, JAMES B.: revolutionary soldier, also naval officer in the war of 1812: 1753, Mar. 6—1854, Feb. 5; b. Bucks co., Penn. In the Revolution he was a capt. in Lee's legion, and was in the battles of Stony Point, Paulus Hook, Guilford Court House, and Eutaw Springs. Entering the navy as master 1812, he was made lieut. 1822, and

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commander 1841.—His son BENJAMIN C. (about 1793—1850), b. N. J., served with distinction in the same war, and was made capt. 1828.

COOPER, JAMES FENIMORE: novelist: 1789, Sep. 15—1851, Sep. 14; b. Burlington, N. J.; son of William C., who was of Eng. Quaker descent. His mother, Elizabeth Fenimore, was of Swedish descent. His original name, James C., was changed at his request by act of legislature 1826 to the name as now known. His father, shortly after the Revolution, had acquired several thousand acres of land around the head-waters of the Susquehanna, in what was then the wilderness of central N. Y.; and the year after C.'s birth William C. removed his family thither to a log house which he built on the shores of Otsego Lake. This was the beginning of the village of Cooperstown (q.v.). The log house was succeeded 1799 by a spacious manor-house, 'Otsego Hall,' which was destroyed by fire a few years after C.'s death. The vast forests through which the Indians still roamed, surrounded C.'s boyhood home. Under the English rector of St. Peter's Episcopal church in Albany, a fine scholar, but a strong disbeliever in the new American republican institutions, C. gained an admirable preparation for Yale College, which he entered 1802 at the age of 13. Though he had much kindness of heart and a singular honesty of purpose, he seems to have been naturally contentious and liable to allow his judgment to be mastered by his temper: these qualities may perhaps explain his expulsion from college in his third year for some act of insubordination. In 1806, with a view to qualifying himself for admission to the navy (the U. S. naval school had not yet been established), he shipped at New York for London and thence to Gibraltar and Philadelphia as a sailor before the mast; and about 15 months later (1808, Jan. 1) he received his commission as midshipman in the navy, and in the winter of 1808-9 he was detailed on a construction party to Oswego to build a brig on Lake Ontario. Thus, before the age of 19, C.'s naturally active imagination had felt the molding influence of the mysterious wilderness haunted by savage men, of the boisterous ocean, and of our northern inland seas overhung by wintry skies. It is not difficult to trace in his writings the broad effects of this scenery, as well as the thorough practical knowledge which he thus gained of the details of frontier and Indian and sailor life. In some of his best works (for his works are quite unequal) he not only depicts men and scenes, but he also makes his readers breathe the very atmosphere in which his characters lived: they hear the Indian's stealthy tread, or they feel the salt spray on their cheeks. Resigning from the navy he married (1811) Susan, daughter of John Peter De Lancey (q.v.). For most of the time thereafter till 1822 he resided in Scarsdale, Westchester co., not far from his wife's family. The toryism of the De Lancey family in the Revolution, added to the invincible Anglicanism in church and in state of his boyhood's tutor, the rector at Albany, seem not to have modified in the least his own pa-

triotic feeling; but they undoubtedly contributed, with occasional offensive criticisms of America in his writings, and with his repeated and protracted visits in England, to make him personally unpopular with his own countrymen, who still held a perhaps natural, but certainly intemperate, hatred of all things English.

In 1820 appeared (at first anonymously) his first novel, *Precaution*, a work that gave no indication of the ability shown in some of his later books. In 1821, *The Spy*—based on a story which John Jay had told, and having for its scene C.'s own neighborhood, Westchester county, which had been debatable ground during the Revolution—startled the American public and instantly placed him in the first rank of novelists. No previous American work had been so successful. It opened to him the career in which fame awaited him. In 1823 C. was a resident of New York; and after 1834 he made his home mostly at Cooperstown, where he repaired his long deserted ancestral mansion, Otsego Hall, in which his father had died 1809.—Five daughters and two sons had been born to him. His second child, SUSAN FENIMORE C. (b. Scarsdale, N. Y., 1813), was his amanuensis in his later years; became known as an author; and in 1873 founded, and afterward managed, an admirably beneficent orphanage at Cooperstown.—C. died at Otsego Hall, having in his closing days charged his family never to permit any authorized publication of the story of his life.

The story of his life is the story of a man whose character was morally pure, whose motives were disinterested, whose heart was kindly, and whose works give brilliancy to the early literary annals of his country, but who lacked the tact, the judgment, and the temper, to make himself understood by his contemporaries—his lot being cast in a period of national youth when political criticism was in its substance largely prejudice, and in its form often virulent abuse. The story, certainly not creditable to him, is positively discreditable to his critics. A pitiful local dispute between C. and his townsmen over the right to a little land on his estate, added personal bitterness to the general popular detraction. That his spirit was unduly proud and contentious is plain; else why was he attacked with simultaneous bitterness in leading British magazines (e.g., Blackwood's and Frazer's) for his offensive republicanism; and by Webb, Greeley, and Stone in three great New York papers, and by Thurlow Weed in the Albany *Evening Journal*, for his abhorrent aristocratic and monarchical leanings? The suspicion is unavoidable that he too easily yielded himself to the luxury of being misunderstood—one of the prime luxuries of a proud spirit. The suspicion that his journalistic assailants were unfair, changes to certainty in view of the fact that C., in repeated prosecutions of them in which he acted as his own counsel before the courts, gained repeated verdicts, with the final effect of silencing their defamation—even Thurlow Weed, the last to yield, publishing 1842 an unqualified retraction of all his statements derogatory to C.'s character.

It is certain that in England he always stoutly defended the institutions of his country; and it is pleasant to note that the whole long unfortunate episode is now only dimly remembered.

C.'s works include more than 70 books and pamphlets, besides numerous magazine and newspaper articles. The list is too voluminous to show an equal merit. More than 30 are novels. His 10 volumes of sketches of European society added little to his reputation. His best works are graphic in description, accurate in constructive details, vivid in dramatic action, thorough in study of character, and strong in its portrayal. Of his novels, the most notable are the famed 'Leatherstocking Tales,' here named in the order of the story, but not, as the dates show, in the order of publication: *The Deerslayer* (1841); *The Last of the Mohicans* (1826, usually deemed his greatest work); *The Pathfinder* (1840); *The Pioneers* (1823); *The Prairie* (1827). The following are some of the best of his other works: *The Spy* (1821); *The Pilot* (1823); *The Water-Witch* (1830); *Heidenmauer* (1832); *Headsmen* (1833); *Wyandotté* (1843); *The Redskins* (1846); *The Red Rover* (1828); *Home-ward Bound* (1838); *Home as Found* (1838—the unfortunate and offensive sequel to the preceding); *The Two Admirals* (1842); *The Wing-and-Wing* (1842); *Satanstoe* (1845). He wrote also an admirable *History of the Navy of the United States of America* (1839, abridged ed. 1841); and *Lives of Distinguished American Naval Officers* (1846).

See biography by Thomas R. Lounsbury (Boston 1882); *Bryant and His Friends* (N. Y. 1886); *The Home of Cooper*, by R. B. Coffin (1872); *Memorial Discourse*, by William C. Bryant, with addresses by Daniel Webster, etc. (New York 1852).

COOPER, PETER, LL.D.: 1791, Feb. 12—1883, Apr. 4; b. New York: philanthropist. In early boyhood he assisted his father in the manufacture of hats, and when 17 years old, was apprenticed to a carriage maker. He remained there till of age, made a machine for mortising hubs, and declined his employer's offer to start him in the business. Removing to Hempstead, L. I., he followed his trade some time, engaged in the manufacture of machines of his own invention for shearing cloth, and made cabinet ware; then returning to New York carried on the grocery business, and began making glue and isinglass, continuing the latter 50 years. In 1828 he purchased 3,000 acres of land in Baltimore, and two years later erected extensive iron works. He there built, 1830, from his own designs, the first locomotive engine ever constructed in the United States, which was successfully operated on the Baltimore and Ohio railroad, then in process of construction. Soon afterward, he disposed of his Baltimore works, and erected a rolling and a wire mill in New York, in which he first successfully applied anthracite coal to the puddling of iron. In 1845 he removed the machinery to Trenton, N. J., where he erected the largest rolling mill of the day in the United States, and made the first iron beams for fire-proof buildings. He also built three blast furnaces at Phillipsburg,

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Penn., bought the Andover iron mine, and built an 8-m. railroad to carry the ore to the furnaces. Mr. C. was the first pres. of the New York Newfoundland and London Telegraph Company, and the successful construction and laying of the Atlantic cable was due largely to his faith in the project and his pecuniary advances when capitalists refused to risk their money. In his business relations, he was eminently successful, and acquired the means of carrying out a scheme for the establishment of an institution for the free education of the industrial classes, which had long been his supreme ambition. That he might thoroughly familiarize himself with the educational necessities of the day, particularly in technical instruction, he became a trustee of the Public School Soc., originated to promote free education in New York, and when the Board of Education was established as an outgrowth of that organization, he rendered most efficient service, as a school commissioner. Perfecting his plans for an institution to be devoted for ever to the union of art and science in their application to the useful purposes of life, he bought the property at the junction of Third and Fourth avenues, between Seventh and Eighth streets, laid the corner-stone of the building, 1854, and on its completion, 1859, executed a deed placing the property in the hands of six trustees, without reservation of any kind, upon the conditions specified in the act of the legislature authorizing the gift to be made, 'that the above mentioned and described premises, together with the appurtenances and the rents, issues, income and profits thereof, shall be forever devoted to the instruction and improvement of the inhabitants of the United States in practical science and art.' During his lifetime Mr. C. gave the trustees \$200,000, as an endowment fund, and added \$100,000 more by his will, and his children, Edward C. and Mrs. Sarah A. Hewitt, gave a further sum of \$100,000 to it after his death. The original cost of the building when conveyed to the trustees was \$630,000; its aggregate receipts to 1888, Jan. 1 were \$1,164,791 and expenditures on building and education \$1,836,733. See COOPER UNION. In 1876, Mr. C. was the candidate of the national independent party for pres. of the United States, and received nearly 100,000 votes in the election. He published *Ideas for a Science of Good Government, in Addresses, Letters, and Articles on a Strictly National Currency, Tariff, and Civil Service* (New York, 1883).

COOPER, SAMUEL, D.D.: 1725, Mar. 28—1783, Dec. 29; b Boston: clergyman. He graduated at Harvard Univ. 1743, studied theology, and succeeded his father William C. (1694-1743) as pastor of the Brattle-street Church, Boston, 1746; was elected a member of the Harvard corporation 1767, and pres 1774, but declined the latter; was intimate with the leading patriots of the revolution, a member of several scientific and religious societies, and a founder and the first vice-pres of the American Acad. of Arts and Sciences. He occupied the Brattle-street pulpit 37 years, and received the degree D.D. from the Univ. of Edinburg 1767.

COOPER, THOMAS, LL.D.: 1759, Oct. 22—1840, May 11;

b. London; lawyer and scientist. He was educated at Oxford, studied law, medicine, and the natural sciences, was admitted to the bar, practiced some time in circuit, and was sent to France as the representative of the English democratic clubs. He there gave his sympathies to the Girondists, which led Edmund Burke to attack him in the house of commons; C. replied with a violent pamphlet, the circulation of which was in part prohibited. In 1795, he removed to Northumberland, Penn. and began practicing law; but soon afterward taking part in current political discussion, he made an attack upon pres. Adams's administration, for which he was tried for libel under the sedition act, convicted, and sentenced to six months' imprisonment and a fine of \$400. Subsequently he served brief periods as land commissioner and judge, was prof. of chemistry and political economy in the College of S. C. 1819-40, and pres. 1820-34, and was appointed reviser of the statutes of S. C. on his retirement. He edited two vols. of *The Emporium of Arts and Sciences* (Phila. 1812-14), and Thomson's *System of Chemistry* (Phila. 1818): published a large number of political tracts, and among others, the following books: *The Bankrupt Law of America compared with that of England* (1801); *An English Version of the Institutes of Justinian* (1812); *Tracts on Medical Jurisprudence* (1819); and *Elements of Political Economy* (1826).

COOPERAGE: the art of making vessels of pieces of wood bound together by hoops. It is a very ancient art, such vessels having been in use among the Romans at the Christian era. The upright pieces forming the sides of a barrel or cask, or other cooper's work, are called *staves*; and as casks are usually larger in the middle than at the top and bottom, this swelling, called the *belly* or *bulge*, is formed by skilfully shaping each stave so that it shall form part of the required double conoid, and that, when all are built and hooped together, their edges shall coincide perfectly; for this purpose, each stave is made broadest in the middle, and narrowed down in a curved line towards each end. A skilful cooper can work this curve so accurately, that no further fitting or alteration shall be needed when the staves are put together. The staves are made to meet at their inner edges, and by driving the hoops very hard, the inner part is compressed until the slight gaping outside is closed, and thus slight inaccuracies of fitting are remedied.

There are several branches of cooperage. The *wet* or *tight* cooper makes vessels for holding liquids. The *dry* cooper does inferior work, such as barrels for containing dry goods, where an inferior degree of accuracy is sufficient. The *white* cooper makes churns, pails, etc., which usually have straight sides.

The best work is made of oak, which must be thoroughly dried before being put together. In warm countries, the drying of the sun is sufficient, and casks are therefore mounted in summer only. The hoops are hammered down from the narrow to the wide part of the cask, by means of a mallet striking a piece of wood held against the hoop. Iron hoops are sometimes put on hot, in order that their contraction in cooling may bind the work together.

CO-OPERATE—CO-OPERATION.

CO-OPERATE, v. *kō-ōp'ér-āt* [*L. con*, and *operate*]: to act or work together for the same end; to concur in producing the same effect. **CO-OP'ERA'TING**, imp. **Co OP'ERA'TED**, pp. **CO-OP'ERANT**, a. working to the same end. **CO-OP'ERA'TIVE**, a. *-ā'tīv*, working jointly to the same end. **CO-OP'ERA'TOR**, n. one who. **CO-OP'ERA'TION**, n. *-ā'shūn*, joint assistance to the same end. **CO-OPERATIVE STORE**, an establishment where goods are sold to subscribers or partners, but only for ready money, bonuses being declared periodically.

CO-OPERA'TION, in Industry or Trade: a system of united effort for commercial or industrial purposes. It refers simply to a joint-stock copartnery on ordinary commercial principles, with limited liability of members; but by the interposition of the legislature for protecting individual interests, and encouraging self-denial and thrift, it possesses some distinct features. Usually, a co-operative society consists of a body, several hundreds in number, belonging to the manual laboring classes, clerks, shop-assistants, etc.; the object being the distribution of articles of daily consumption among the members. A store is established under a manager and assistants; goods of the best quality are purchased on favorable terms, and retailed to members at such an advance on cost price as will pay expenses and leave a small profit. All the sales whatsoever are for ready money; no credit is given. Soundness in the articles bought and comparative cheapness are alone aimed at; and such results are attained by care in the management, and by adhering to the ready-money system. There is little trouble in book-keeping, no loss from giving credit. In fact, the customers of the concern are their own shop-keepers. To carry out any such principle of co-operation with advantage, there must be a large intelligent population, with mutual confidence, and considerable similarity of tastes.

Membership is constituted by payment of shares. In Britain, the share is ordinarily one pound sterling, to be paid up at once, or by small weekly instalments. By 18 and 19 Vict. c. 63, a member can own shares to the amount of £200. The shares are not transferable, unless the rules of the society make them so in whole or part; but in general non-transferability is adopted, with power of withdrawal; this constitutes the chief difference between C. and the common joint-stock system of business. The peculiarity of making the shares personal to the holder is most valuable; for by it all stock-jobbing or gambling in shares is prevented. When a member dies, his shares are accounted for to his representatives. If more money is paid in by members than is wanted, the directors can order the overplus to be taken back. The first shilling paid in, and the last shilling at the credit of a member, on drawing out, are carried to a fund called Redemption-money, which is designed to make good the deterioration of property. In this and some other respects, however, societies differ, according to the rules established. In some societies, share holders or members only are entitled to purchase goods at

CO-OPERATION.

the stores; in others, the privilege is extended to 'friends of members' approved by the association.

By prudent management, numerous co-operative societies in England have had extraordinary success. One of the more remarkable is the Rochdale Equitable Pioneers' Society. Beginning 1844, with a capital of only £28, its affairs, at the end of 1880 stood thus: Number of members, 10,613; amount of funds, £323,225; business done in 1880, £283,654; profits in 1880, £35,023. In the proceedings of this society is offered a surprising example of what may be done by C. when properly conducted. One material cause of the prosperous extension of this undertaking consists in the fact, that members allow their dividends and profits to accumulate to their credit, instead of drawing them out as they accrue, and spending them. Another feature of this society consists in setting aside a part of the profits for the support of an Educational Department, in which are comprehended a lending library, a reference library, news-rooms, and collections of globes, maps, and scientific instruments. Out of the successes of this society sprang several gigantic concerns at Rochdale and elsewhere. The most notable of the London societies is the Civil Service Supply Assoc., designed for the benefit of others than the poorer classes of the community. It has four thousand five hundred shareholders, and many thousands of members. The wages paid amount to nearly £50,000 a year. The premises which form the headquarters of the Assoc. are valued at £32,000. In the first year, 1867, the sales of the Association represented a value of £21,322; in the year ending 1880, Aug., the value of the sales reached £1,420,000. On an average the prices charged to members and clients are at the rate of 10 per cent. above wholesale prices, thus allowing a profit to defray working expenses, which amount to about seven-and-a-half per cent. This allowance has proved more than sufficient; in three years, the surplus profit had accumulated to very nearly £100,000. In 1882, there were 1,346 co operative societies in the United Kingdom, with 661,000 members, and a capital of £7,432,000. In that year they did business to the extent of £26,616,000, with a profit of £2,112,000.

A step beyond retail store-keeping was taken in 1864 by the establishment of the North of England Co-operative Wholesale Soc. (Limited), the central office of which is at Manchester. Its object is to supply goods wholesale to co-operative stores. Besides importing foreign articles, the soc. purchases vast quantities of butter, provisions, and dry goods in all parts of the United Kingdom; latterly, the manufacture of biscuits and the business of banking have been added to this comprehensive concern, which has numerous branches and agents. C., however, has gone even beyond this. At Rochdale, Leeds, and elsewhere, co-operative societies composed of working-men have set on foot large cotton-factories, flour-mills, or other industrial establishments, which compete in the general field of manufacturing enterprise. In these concerns, the operatives

CO-OPERATION.

receive weekly wages, and also dividends on profits after paying for management.

Co-operative societies are registered pursuant to 18 and 19 Vict. c. 63, 20 and 21 Vict. c. 101, and 30 and 31 Vict. c. 117. The rules of the society are binding, and may be legally enforced—protection is given to members, their wives, children, and heirs in enforcing their just claims, and against any fraudulent dissolution of the society; the property of the society is declared to be vested in the trustee or treasurer, who may, with respect to the property of the society, sue and be sued in his own name; fraud committed with respect to the property of the society is punished by justices. With a view to afford means for mutual advice and consultation, there has been established a Central Co-operation Board at Manchester; the members connected with which hold congresses and conferences at different places.

For further information see the statutes; also the *Co-operative News*; the reports of the above-mentioned bodies; the *Transactions of the Social Science Congress*; and Chambers's *Information for the People*, No. 85; Holyoake's *History of Co-operation* (1878); *Co-operation as a Business*, by Charles Barnard (1881); and Escott's *England* (2 vols., 1879). See also BENEFIT SOCIETIES: FRIENDLY SOCIETIES.

CO-OPERATION IN THE UNITED STATES: united action of many persons in trade or any business; practiced on three distinct plans, in the forms of (1) building loan associations, (2) stores and manufactories, and (3) colony settlements. Of these forms the first has been the most extensive and successful. It is believed that the first society for the mutual loan of money for building purposes was started in Philadelphia 1830, under the encouragement of Quaker land-owners who would not sell building lots outright but offered them for improvement and occupation on ground-leases of long duration. By 1880 there were 560 of these associations in that city alone, managed by working people and representing a capital for building or buying domiciles of over \$100,000,000. They had made the city emphatically a community of house-owners. Little by little the popularity of the early scheme extended. The financial troubles of 1873 and the failures of banks and savings institutions materially accelerated their spread till now (1888) there is scarcely a city, town, or industrial village in the country but what has at least one such organization. Legislatures have enacted special laws for their encouragement and security, and the ablest lawyers in the country, uniting with experienced business men, have entirely re-modelled the early 'Philadelphia system,' and produced a plan simple in detail, inviting in management, and secure in results. The scheme received a new impetus 1887, when the leading secret and benevolent societies, trade unions, and various associations of workingmen, clerks, and employers formed building loan clubs to enable their members to own their homes; and in 1888 these organizations were so numerous in New York and vicinity that the newspapers gave considerable space to

their reports and operations.—About the time the building loan idea took root in Philadelphia, some New England labor organizations attempted the second form of C. Several stores for the sale of groceries and general household articles were opened, the plan being to purchase large quantities of goods at wholesale for cash, and retail to members at such advance only as was necessary to defray the slight operating expenses. Between 1840–50 the New England Protective Union, adopting the scheme of the co-operative stores in Rochdale, England, built up a system of stores which at their height did a business of about \$2,000,000 per annum. In the next decade co-operative dairies were started in several parts of N. Y., which increased to an aggregate of 5,000 in the United States 1870–80. Then came the orders of Patrons of Husbandry, and Sovereigns of Industry, which spread rapidly through the northern, eastern, and western states, and by their stores and purchasing agencies did an annual business each of upward of \$5,000,000. The Hon. Josiah Quincy, of Boston, became deeply interested in these schemes of self-help among the working classes, and greatly aided them in many ways in the New England states. A large co-operative dry-goods and millinery store was established in New York under the management of Miss Kate Field, and several large grocery and provision stores were opened in different parts of the city, in Brooklyn, Philadelphia, Boston, and elsewhere, the societies in some places also providing the leading articles of household use and furniture. With very few exceptions, however, the store feature proved unsuccessful, and it is now almost entirely abandoned. The depression of trade following the panic of 1873, led to the opening of many factories on the co-operative plan by workmen thrown out of employment, particularly in the large industrial cities. Ship-yards were opened in Baltimore and Boston; machine shops in Philadelphia, Brooklyn, and Newark; foundries and iron works, boot and shoe factories, hat and cigar factories, and all manner of associated efforts of skilled labor sprang into brief existence almost in a night. The lack of sufficient capital, and, probably, in a larger sense, the lack of business experience in the projectors, soon proved the impossibility of maintaining this form of C.—The establishment of New Rugby in Tenn by Thomas Hughes, M.P. and author of *School Days at Rugby* and *Tom Brown at Oxford*, in 1880, led to the formation of a large number of societies for the purpose of purchasing suitable tracts of land for settlement by their members. A number of co-operative settlements had previously been made, among others, by Swedes at New Sweden, Me., Swiss near Chattanooga, Tenn., Russians in Middlesex co., Va., Italians in Bowie co., Tex., and Germans at Anaheim, Cal. Between 1879–84 large English colonies were founded in Crawford, Woodbury, Plymouth, and Sioux counties, Io.; a German Cath. colony at Marienfeld, Martin co. Tex.; an Indiana colony at Pasadena, 7 m. from Los Angeles, Cal.; numerous colonies of refugee Russian Jews in N. J., Ill., Ia., and Tex.;

COOPER RIVER—COOPER UNION.

Russian Mennonites in Kan.; Scandinavians in Dak. and Minn., etc. The colonists of Anaheim, the most successful colony ever planted in Cal., bought their land, had it planted in vines and different varieties of fruit trees, and cultivated and cared for by contract for two years. Each share represented 20 acres of land, and the cost of the improvements was paid in assessments by each stockholder till the third year, when the settlement actually began. Then all the shareholders having collected the different vineyard lots, they were divided among the shareholders, and afterward each managed his own plantation. See BENEFIT BUILDING SOCIETIES: FRIENDLY SOCIETIES: POLITICAL ECONOMY; BUILDING AND LOAN ASSOCIATION.

COOPER RIVER: stream of S. C. rising in the central part of Charleston co., and flowing s.e. to the city of Charleston, where it unites with the Ashley river in forming the harbor. It is navigable 30 m. to the Santee canal, which is 21 m. long and connects it with the river of that name.

COOPERSTOWN, *kóp'êrz-town*: village of N. Y., cap. of Otsego co., picturesquely situated on the Susquehanna river at the s. end of Otsego lake; 35 m. s.s.e. of Utica, 60 m. w. of Albany. The C. and Susquehanna Valley railroad, connecting with the Albany and Susquehanna railroad, has a terminus here. It was founded by Judge William Cooper, father of the novelist James Fenimore Cooper, and has six churches, Bede Hall School for boys, a female collegiate institute, two banks, and two weekly newspapers. Pop. (1890) 2,657. It is a summer resort. Pop. (1900) 2,368.

COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART: institution in New York founded by Peter Cooper (q.v.) in 1859, at the junction of Third and Fourth avenues, between Seventh and Eighth streets. He purchased the ground, erected the building, and executed a deed in fee simple of the whole property, which had cost \$630,000, to six trustees, 1859, Apr. 29. In a letter accompanying the trust-deed, the founder said: 'My heart's desire is, that the rising generation may become so thoroughly acquainted with the works of nature, and the great mystery of their own being, that they may see, feel, understand, and know that there are immutable laws, designed in infinite wisdom, constantly operating for our good—so governing the destiny of worlds and men that it is our highest wisdom to live in strict conformity to these laws.' He further desired to make the institution contribute in every way to aid the efforts of youth to acquire useful knowledge, and to find and fill that place in the community where their capacity and talents could be usefully employed with the greatest possible advantage to themselves and the community. Guided by these principles, the trustees agreed on the following scheme as best calculated to instruct, elevate, and improve the working classes of the city: (1) Instruction in the branches of knowledge which are practically applied in their daily occupa-

tions, by which they support themselves and their families; (2) instruction in the laws by which health is preserved, and the sanitary condition of families improved; (3) instruction in social and political science, by virtue of which communities maintain themselves and nations advance in virtue, wealth, and power; (4) instruction addressed to the eye, the ear, and the imagination, with a view to furnish a reasonable and healthy recreation to the working-classes after the labors of the day. As this scheme included both sexes, it was decided to extend all the privileges of the institution to men and women alike. The development of the institution has followed in the line thus marked out. There are (1891) seven educational departments in operation: (1) Free reading room and library, containing 498 periodicals on file, and 30,273 vols. During 1890 the number of books used was 228,217, and patent-office reports examined 7,819; the visitors numbered 566,942. The reading room is open daily 8 A.M.—10 P.M.; and on Sundays, Oct.—May, 12 M.—9 P.M. (2) Free art school for women: open daily, 9 A.M.—1 P.M.; number of applications for admittance 545, admitted to morning free classes 265, at close of term 226. (3) Free class in phonography and type-writing for women: admitted 51, at close of term 38. (4) Free school of telegraphy for women: admitted 43, at close of term 40. (5) Free night school of science: classes in algebra, geometry, trigonometry, analytical geometry, descriptive geometry, differential and integral calculus, elementary mechanics, natural philosophy, applied mechanics, astronomy, elementary chemistry, geology, mechanical drawing, and chemical analysis: admitted in all 1,035, at close of term 796, receiving certificates 554. (6) Free night school of art: classes in perspective drawing, mechanical drawing, architectural drawing, drawing from cast, form drawing, decorative designing, ornamental free hand, rudimental free hand, modelling in clay; admitted in all 1,917, at close of term 1,039, receiving certificates 713. (7) Free Saturday night lectures, delivered by specialists in science and art. During 1890 the revenue was \$49,518; expenditures \$47,027; balance 1891, Jan. 1, \$13,006; current assets \$14,119; current indebtedness \$8,216. The expenditures included \$10,287 for the free night classes in science and art; \$11,244 for the Art School for Women; \$5,629 for library; and \$1,819 for Reading Room.

CO-OPT, v. *kō-ōpt'* [L. *con*, together; *opto*, I choose]: to call into co-operation with, without being formally elected; to choose into a body by the body itself, as in choosing successors, or adding others to their body. CO'-OPTA'TION, n. *-ōp-tā'shūn*, a system of election by which a body fills up its own vacancies.

CO-ORDINATE.

CO-ORDINATE, a. *kō-ōr'dī-nāt* [L. *con*, and *orāīnātus*, put in order, arranged]: of equal order; of the same rank or degree. Co-OR'DINATELY, ad. *-lī*. Co-OR'DINATENESS, n. equality of rank or authority. Co-OR'DINA'TION, n. *-nā'-shūn*, the state of holding equal rank or authority. Co-OR'DINATES, n. plu. *-nātz*, in *geom.*, lines or other elements of reference, by means of which the position of any point, as of a curve, is defined with respect to certain fixed lines or planes. What is called the method of C. is an invention of Descartes, whereby algebra and the calculus may be employed in geometrical investigations. The method is sometimes called algebraical geometry—sometimes more properly, analytical geometry; and it is commonly treated under the heads 'geometry of two dimensions,' and 'geometry of three dimensions,' according as it is applied to investigate the properties of figures all in one plane, or of curved surfaces. The method is capable of popular explanation. C. are lines so measured off from a fixed point, called the origin of C., along fixed lines passing through it, called the axis of C., as to determine by their quantities the position of any other point relative to the origin. The first step is to find how to determine the position of a point in a plane. Take any fixed point in it for the origin of C., and through it draw two fixed lines—the co-ordinate axes—at right angles to one another. Then, if the perpendicular distance of the point from each of these axes be given, its position will be determined. Referring to Fig. 1, if P be the point, and O be taken for the origin of co-ordinates, OX, OY for the axes, then if we know NP or OM, the perpendicular distance of P from OY, and measure off from O, OM on the axis OX, and through M raise a line perpendicular to OX, P must lie in this line, for it contains all the points in the plane which are at the perpendicular distance OM from the axis OY. Similarly, if ON or PN, the perpendicular distance of P from the axis OX, be known, and we measure that distance off from O along OY, and through N draw a perpendicular to OY, the point must be in that perpendicular. It is therefore at the intersection of the perpendiculars through M and N respectively. When, as in the figure, the fixed lines are at right angles to one another, the co-ordinates OM, ON are called the rectangular co-ordinates of the point. Let us now see what use can be made of this mode of determining the position of the point, for the discovery of the properties of lines and surfaces. As the values of the C. change for the different points in the plane, they are denoted by the variables x and y . Now, if we suppose the point P to begin to move according to a determinate law, and the co-ordinates to change their magnitudes so as always to be its co-ordinates, knowing the law of P's motion, we are able to express in algebraical language the law of the corresponding changes in its co-ordinates. For instance, if P moves so as to be always at

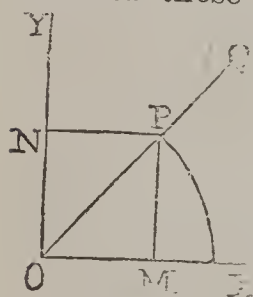


Fig. 1.

the same distance from O, OP is constant, and (47th Prop. Euclid, Book I.) the square on OP is equal to the sum of the squares on OM and PM. Putting this into algebraical language, we have the equation, $x^2 + y^2 = R^2$, or $y = \pm \sqrt{R^2 - x^2}$, where $R = OP$. This is called the equation of the circle referred to its centre as origin, and to rectangular C.; and it expresses the law according to which the changes of the C. must take place: and from this equation, combined with that to a straight line, etc., every property of the circle may be determined. If P move so that the sum of the distances from two fixed points shall be always the same, and we express the relation between x and y in that case, we should have the equation of an ellipse. This suffices to show in a general way the nature of the method. Equations between x and y are called the equations of the lines, whether straight or curved, traced out by the point P; and by means of them, though they but express relations between *quantities*, the *qualities* of the lines to which they refer may, by artifices explained in every treatise on the subject, be detected. Nay, by assuming equations between x and y , and examining the lines which points represented by them would trace, many singular curves have

been discovered. There are a variety of conditions to be attended to in the interpretation of such equations, depending on the assumptions set out with, in choosing the origin and axis. The axis of x or OX being taken to the right of the origin, and the axis of y or OY being perpendicular to it and above it, x and y are counted positive when they are measured along their axes to the right of and above

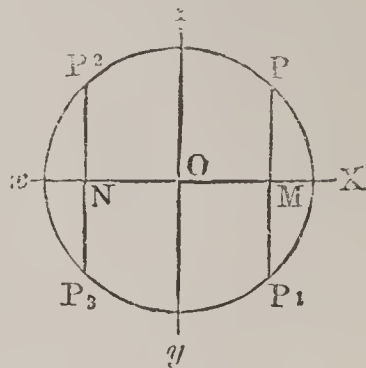


Fig. 2.

the origin respectively, and negative when they are measured to the left and downwards respectively. Suppose $x = OM = ON$, and $y = MP = MP_1 = NP_3 = NP_2$, the C. of the points P, P₁, P₂, P₃ would be $(+x, +y)$, $(+x, -y)$, $(-x, +y)$, $(-x, -y)$ respectively. These points being equidistant from O, we may suppose a circle to pass through them. Recurring now to the equation of the circle, $y = \pm \sqrt{R^2 - x^2}$, the meaning will be seen of the two values $+$ and $-$ of y given by the quadratic. Often the axes of C. selected for convenience are oblique, i.e., inclined at some other angle than a right angle. An equation between C. referred to one set of axes may always be transformed to C. referred to another, by the process known as the transformation of co-ordinates. A similar transformation of equations by the same process may be made where it is desired to refer the line to a new origin.

What has hitherto been said refers entirely to the C. of a point in a plane, or to what is called geometry of two dimensions. But the rationale is the same with that of connecting in equations the C. of points in space—the

COORG—COOSA RIVER.

subjects of geometry of three dimensions. The position of a point in space requires three C. to determine it, and these are usually denoted by the symbols x, y, z . An origin being taken, and three axes, OX, OY, OZ , mutually at right angles to one another, the point is referred to the three planes through these axes. z , or PN , is its height above the plane through YOX ; y , or NM , is its distance perpendicularly from the plane XOZ ; and x , or OM , is its perpendicular distance from the plane ZOY . It is clear that these three determine the position of the point. In three dimensions, as in two, the problem may be stated to be: Given the law of the motion of P , to express the law regulating the variations of its co-ordinates as it moves. The algebraic expression of the latter law is, the equation of the surface traced by the point in moving over all the space it can traverse consistently with the law of its motion. The method of C., besides its use in geometry, is of great value for resolving forces in mechanics, and for finding the resultant of a great many of them

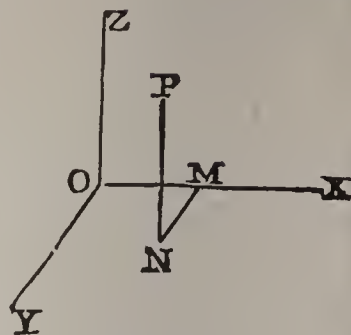


Fig. 3.

COORG, *kôrg*: province under the government of India, bounded by Mysore, Malabar, and Canara; in lat. $11^{\circ} 56' - 12^{\circ} 45'$ n. long. $75^{\circ} 25' - 76^{\circ} 13'$ e.; about 1,600 sq. m. Until 1834, it was a native principality of ampler dimensions. As now defined, C. appears to be wholly within the basin of the Cauvery, one of the chief tributaries of the Bay of Bengal. From its elevated situation—the lowest point is more than 3,000 ft. above the sea—C. is exposed to both the s.w. and n.e. monsoons. Hence the yearly fall of rain amounts to about 120 inches. For the same reason, the temperature is comparatively low and equable. Nearly the whole of this rugged region is covered with forests, more or less dense, but seldom so full of undergrowth as to form jungle. The zoology of C. comprises elephants, tigers, bears, etc., with birds and reptiles in vast variety. The natives, mostly Nairs, are handsome and athletic. Among them there exists a community of wives between brothers. But C. has perhaps nothing so worthy of notice as its artificial fortifications. The country is intersected by ramparts, which are from 15 to 25 ft. in height, and by ditches of about 10 ft. in depth and about 8 in width; while, being in some places double or triple, or even quadruple, they measure in aggregate length upward of 500 miles. These works are very ancient. The true name of this territory is *Kudagu*, C. being a corrupt form. Pop. (1871) 168,312; (1881) 178,283; (1891) 173,055; (1901) 180,607.

COOSA RIVER, *kô'sa*: stream formed at Rome, Ga., by the junction of the Etowah and Oostenaula rivers, flowing w.s.w. to Ten Islands, Cherokee co., Ala., then s.s.w. forming the e. boundary of Shelby and Chilton cos. and the w. of Coosa co., to the Tallapoosa river in Elmore co.,

COOS BAY—COOT.

where abt. 10 m. n.n.e. of Montgomery the two streams form the Alabama river. The C. is abt. 350 m. long: the upper portion is navigable between Rome and the Ten Islands, but the channel of the lower portion is so shoaly that only flat boats can navigate it.

COOS BAY, *kô's*: seaport of Oregon, in Coos co. where the Coos river empties into the Pacific Ocean. The entrance is n. of Cape Arago, lat. $43^{\circ} 20' 38''$ n., long. $124^{\circ} 22'$ w., and has a bar impassable for vessels drawing over 14 ft. of water. Beyond its banks are valuable tracts of heavy timber and rich mines of lignite coal; the exportation of the latter is the principal industry.

COOSY, *kô'si*—not to be confounded with the much smaller Coosy which enters the Hoogly from the right below Calcutta: one of the largest rivers of India. It rises in lat. $28^{\circ} 25'$ n., and long. $86^{\circ} 11'$ e., on the s. slope of the Himalayas, receiving, however, at least one affluent from the n. face of that range. On emerging from the mountains, in lat. $26^{\circ} 45'$, and long. $87^{\circ} 13'$, it shows a greater volume than does the Ganges itself, in the corresponding position of Hurdwar. After a course of 325 m. in all, through the state of Nepaul and the district of Purneah, it joins the Ganges from the left, in lat. $25^{\circ} 19'$, and long. $87^{\circ} 19'$.

COOT, n. *kôt*. [Dut. *koet*, a small black duck: W. *cwt*; Gael, *cut*, a short tail], (*Fulica*): genus of birds of the order *Grallæ*, ranked either in the family *Rallidæ* (rails, crakes, etc.), or in a separate family, *Lobipedidæ*, which differs chiefly in having the toes edged with a scalloped membrane, thus making an approach to the web-footed birds. Coots have a strong, straight, and somewhat conical bill, the base of which extends up the forehead, and there dilates so as to form a remarkable naked patch. The tail is very



Common Coot (*Fulica atra*).

short. They are aquatic in their habits, preferring lakes or pools with reedy margins, and retreating among the reeds on any alarm. The Common C. (*F. atra*) is found in most parts of Europe, Asia, and n. Africa; occurring in the more northerly regions as a summer bird of passage; al

COOTEHILL—COPAIBA.

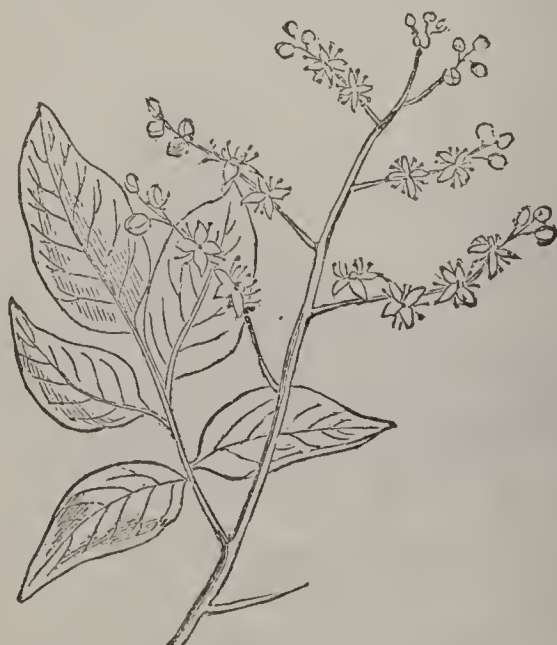
though in southerly parts of Britain it is plentiful during winter. It is about 16 inches long, of a black color, with a narrow white bar across the wings, and the naked patch on the forehead pure white, from which it is often called the Bald Coot. It makes a large nest of water-plants among reeds or rushes. Although not very highly esteemed for the table, the fact that many can be killed by a single shot, on the mud-banks to which coots resort in winter, makes C. shooting profitable to fowlers who purvey for the market.—The American C. (*H. Americana*), a very similar species, is found in all parts of N. America, from the W. Indies to the Saskatchewan.

COOTEHILL, *kót'hîl*: town in the n.e. of Cavan county, Ireland, on the Cotehill, affluent of the Annalee; 28 m. w. n.w. of Dundalk. It consists chiefly of four wide streets, and is situated at the w. end of a series of lakes navigable for about 7 m. to the e. to near Ballybay. It has a trade in linen. Pop. (1881) 1,789; (1891) 1,593.

COP, n. *kõp* [W. *cop*, the top of anything; *coppog*, crested: Dut. *kop*, the head: W. *cob*, a thump, that which produces a top or tuft]: in *OE.*, the top of anything; the crown of the head. COPPED, a. *kõpt*, in *OE.*, rising to a top or head.

COP, n. *kõp*, or COP'PIN [AS. *copp*; O.H.G. *choph*]: a conical ball of thread wound upon a spindle or tube in a spinning-machine, and removable by slipping therefrom.

COPAIBA, n. *kõ-pā'bă*, or COPAI'VA, n. *vă* [Sp. and Port.]: balsam, valuable in medicine, consisting chiefly of a resin (*Resin of Copaiba*) and a volatile oil (*Oil of Copaiba*). It flows from incisions made in the stems of trees of the



Balsam of Copaiba Tree.

genus *Copaifera*, trees with pinnate leaves, of the nat. ord. *Leguminosæ*, sub-order *Carsalpinieæ*, natives of tropical America. It has a peculiar, not disagreeable odor, and an acrid taste. It has stimulant properties, is diuretic when

COPAIS.—COPARCENARY.

taken in small doses, aperient in larger doses; but is principally useful from its powerful action on the mucous membranes. It is much used in affections of the urino-genital system, and is used also in chronic catarrhs, etc. Balsam of C. is frequently adulterated with castor oil. The Wood Oil (q.v.) or Gurgina Balsam of India, the produce of a species of *Dipterocarpus*, is sometimes sold as Balsam of Copaiba. COPAI'VIC, a. -vîk, denoting an acid obtained from copaiba balsam.

COPÄIS, LAKE: see BÆOTIA.

COPAL, n. *kō'pāl* or *kō-pāl'* [Mexican, *copalli*, a general name for resins]: resinous substance used for a variety of purposes in the arts. It appears in commerce in smooth rounded masses, colorless or lemon-yellow, translucent or transparent, rather brittle, and when cold almost without smell or taste. It is readily fusible and inflammable, is insoluble in water, and only partially soluble in alcohol and oil of turpentine, but becomes entirely soluble in them when it has been for a short time melted. Various useful pale-yellow or almost colorless varnishes and lackers are made of melted C. and alcohol, oil of turpentine, or boiled linseed oil.

C. is said to be from a general Mexican name for resins or gums, and the C. of commerce was perhaps originally brought from Mexico. C. is obtained also in Africa, Brazil, Madagascar, and India. Mexican C. is now believed to be the produce of a species of *Hymenæa*, a tree of the nat. ord. *Leguminosæ*, sub-order *Cesalpinieæ*. *Vateria Indica*, a large tree of the nat. ord. *Dipteraceæ*, yields the C. of India, very nearly resembling true C. in its properties, sometimes called Gum Animé (q.v.) in British commerce. COPALINE, n. *kōp'ă-lîn*, in *geol.*, mineral substance resembling copal, thence called *fossil copal*, found in some tertiary clays, as at Highgate near London, whence it is called *Highgate Resin*.

COPALCHE BARK, *kō-pāl'cha*: bark resembling Cascarilla (q.v.) Bark in its properties, and produced by shrubs of the same genus, *Croton pseudo-china* and *C. suberosum* (see CROTON), natives of Mexico. The former yields a variety in small quills; that produced by the latter is in larger quills, and has a corky epidermis. C. B. is much used as a substitute for *Cinchona* in the cure of intermittents in Mexico, and is exported, though not largely.

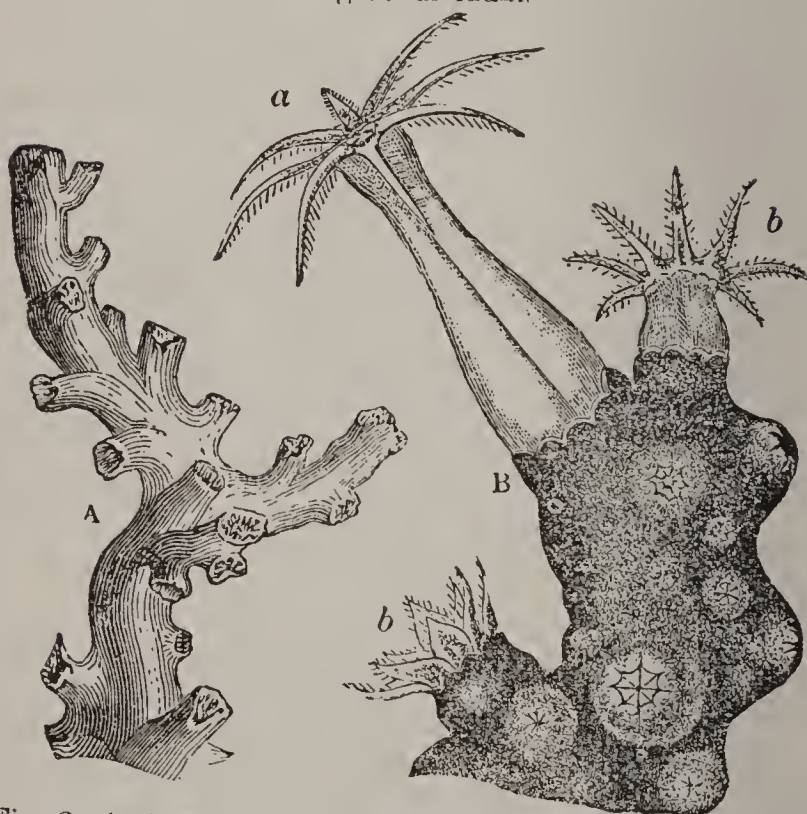
COPALM: see LIQUIDAMBAR.

COPAN, *kō-pân'*: ruined city of Honduras, on the borders of Guatemala, Central America; on a stream of its own name, affluent of the Motagua. The remains, extending about two m. along the river, comprise a temple 624 ft. in length, various pyramidal structures and sculptured idols similar to those of Egypt and India.

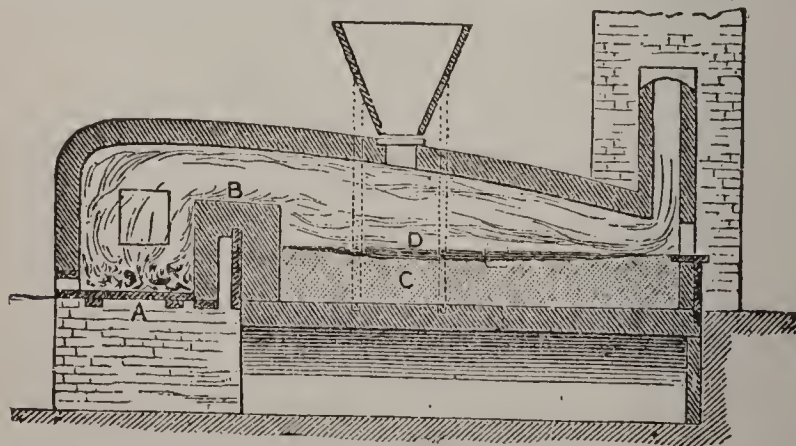
COPARCENARY, n. *kō-pâr'sĕn-ĕr-ĭ* [L. *con*, together; *particeps*, a partaker, a sharer]: joint share in an inheritance. COPAR'CENER, n. -ĕr, a joint sharer in an inheritance. —Although such an estate remains unsevered, yet each



Coral.—Fig. 1. *Caryophyllia borealis*, single individual.



Coral.—Fig. 2. A, Branch of *Dendrophyllia*; B, Part of stock of red coral with (a) fully extended polyp. and (b, b) two polyps partly extended.



Section of a Reverberatory Copper-melting Furnace: A, Fireplace; B, Fire-bridge; C, Bed of sand; D, Melted copper.

parcenar is entitled to a distinct share of it; consequently there is no benefit of survivorship, but the right of each descends to his or her heirs, who are still called coparcenars with the surviving original parcenars. The rule of descent is also *per stirpes*, so that the heirs of one who has predeceased the common ancestor take only the share which would have come to their immediate ancestor had he or she survived. If one of the coparcenars alienates his share, the C. is destroyed, and the estate becomes a tenancy in common (q.v.). C. may also be destroyed by partition, when the estates become in severalty (q.v.). This may be effected either by voluntary agreement, or by a suit in chancery. An Advowson (q.v.) is exercised in turns, according to seniority. If the estates in C. are by descent reunited in one person, they become again an estate in severalty.

COPARTNER, n. *kō-pârt'nēr* [L. *con*, together; *partem*, a part]: one who is jointly concerned with one or more persons in carrying on a business; a sharer; a partaker. COPART'NERSHIP, n., or COPART'NERY, n. *-nēr-ī*, joint concern in a business; the persons who have a joint interest in a business. see PARTNERSHIP.

COPE, n. *kōp* [Dut. *kap*, a cap, or hood, summit of a building: Sp. *copa*, crown of a hat: It. *copi*, tiles; *cappa*, a cloak with a hood]: a cover for the head; anything spread over the head; the top or covering course of a wall; a sacerdotal vestment or garment worn in sacred ministrations: V. to cover with a cope. Co'PING, imp.: N. the top or sloping part of a wall. COPED, pp. *kōpt*. COPE'STONE, n. head or top stone.

COPE, v. *kōp* [Icel. *kapp*, contention]: to contend with on equal terms; to match; to oppose with success; to strive or struggle with. Co'PING, imp. COPED, pp. *kōpt*.

COPE, v. *kōp*; COUP, v. *koup*, in *Scot.* [Gael. *copair*, a buyer and seller: AS. *ceap*, sale, business: AS. *ceapian*; Dut. *koopen*; Ger. *kauffen*, to buy: Icel. *kaupa*, to sell]: to buy and sell; to engage in petty trade or traffic, especially in cattle and horses; in *OE.*, to reward; to give in return. HORSE-COUPER or COPER, n. *kow'pēr*, in *Scot.*, one who carries on an inferior trade in horses. COPE'MAN, n. a merchant; a trader. COPER, n. *kō'pēr*, in certain lead-mining districts, one who has bargained to obtain ore at a certain rate. *Note.*—The Scotch word CHAPMAN, meaning a petty travelling trader, has the same origin as COPEMAN.

COPE: custom or tribute due to the crown, or lord of the soil, out of the lead-mines in Derbyshire, England.

COPE. ecclesiastical vestment, worn during the celebration of mass, at processions, vespers, and other solemnities. The C. was originally a cloak worn for ordinary purposes. In form it is a semi-circle, without sleeves and with a hood. It is fastened across the breast with a clasp or morse. Copes early began to be ornamented with embroidery, and even with jewels; and so early as the 13th

COPE—COPENHAGEN.

c. they became the most magnificent and costly of all the vestments of the priesthood.

COPE, *kōp*, EDWARD DRINKER: paleontologist and author: b. Philadelphia, 1840, July 28. His father and grandfather were prominent merchants in that city. After graduation at the Univ. of Pennsylvania, he was in the dept. of comparative anat. in the Philadelphia Acad. of Sciences and in the Smithsonian Institution; was in Europe 1863-4; prof. of nat. sciences in Haverford College 1864-67. He was paleontologist of the first survey of the U. S. territories, and of the survey w. of the 100th meridian, and collected at a personal expense of \$75,000 an immense amount of material, including 600 new species, especially many of the wonderful vertebrata of the cretaceous and tertiary beds. He was recognized abroad as one of the foremost in his specialty; received 1879 the Bigsby gold medal of the Geol. Soc. (London); and published hundreds of scientific monographs and many elaborate treatises, among these being *The Origin of the Fittest* (1886). D. 1897.



Cope.

COPECK, or COPEK, or COPEC, n. *kō-pĕk*: Russian copper coin, the oldest kind in Russia, and the first substitute for furs as a medium of exchange. The name is derived from the Russian word for a lance, St. George and his lance having anciently figured on the coin. Copecks were originally coined of silver alone, but copper copecks were afterward introduced. The present C. is the hundredth part of a silver ruble (which is worth 55 3 cents), or abt. .55 of a cent.

COPENHAGEN, *kō-pĕn-hā'gĕn* (Dan. *Kjöbenhavn*, 'Merchants' Haven'): capital of Denmark; on the island of Sjælland, in the Sound which is here about 15 m. broad; and the city includes the island of Amager or Amak, separated from Sjælland by a narrow arm of the sea, forming a fine and capacious harbor; lat. 55° 41' n., long. 12° 35' e. C. lies very low, and was strongly fortified until 1864, when the land works were destroyed, though the citadel of FredericksHAVN, and some of the batteries on the sea, were left in a condition to admit of being defended in case of emergency. The old ramparts of the city and citadel, which are planted with trees, afford pleasant walks. The population of C. was, in 1901, 378,235. Copenhagen proper, in Sjælland, and ChristiansHAVN on Amager, which form the main divisions of the city, are united by the bridges Langebro and Knippelsbro. The business quarter of C. stretches from its noble harbor in a n.e. direction toward the principal and central square, Kongens Nytorv, which in itself forms the focus of the life of the city.

COPENHAGEN.

Further n. and e. of this point lies the aristocratic quarter, with the handsome Amalienborg Square of royal and administrative palaces : and this district is bounded in the extreme n. by the citadel, and the adjoining public gardens and walks on the shores of the Sound. C. has suffered so severely during the last hundred years from fires and bombardments, that the city contains comparatively few remains of antiquity. Among its few buildings of historical interest or intrinsic beauty, are the metropolitan cathedral-church, known as Vor Fruekirke, rebuilt after the bombardment of 1807, and distinguished now for possessing statues of Christ and the Apostles, together with a kneeling angel bearing a baptismal shell-font, which were designed, and in part executed, by Thorwaldsen; Trinitatiskirke, remarkable only for its round tower, ascended by a winding causeway instead of steps; and Holmens' Kirke, containing interesting monuments to the great naval heroes, Juel and Tordenskjöld. The royal palace, called Christiansborg, is one of the most extensive in Europe, though its architectural character is not high. It contains, however, a picture gallery, and some noble works of art by Thorwaldsen and others. The castle of Rosenborg, where the regalia are kept, contains interesting collections of objects of art; and the palace of Charlottenborg is now used as an acad. of arts. The university was founded by Christian I. 1479, but the constitution under which it at present exists bears date 1788. The number of professors is about 40, students 1,200. Connected with the university are a surgical academy, two observatories, a botanical garden, a polytechnic institution, and a library of 250,000 vols., containing also a great collection of ancient Persian mss., and another of ancient northern mss. C. is the centre, not only of Danish, but of northern literature and art, and is the seat of a number of societies for the advancement of these in all their branches, among which the most important are the Literary and Scientific Assoc., founded 1742; the Acad. of Arts; and the Royal Soc. for Northern Antiquities, founded 1825. The royal library contains 500,000 vols., besides great treasures of Sanskrit and other mss. The Museum of Northern Antiquities in Christiansborg is unrivalled in its kind, and contains an admirably arranged collection of *stone* weapons, ornaments, etc., to B.C. 500, bronzes to A.D. 500, and articles wrought in iron, silver, and gold to A.D. 1000, besides numerous specimens to illustrate arts and manufactures in Scandinavia during the Christian ages. The Thorwaldsen Museum, opened 1846, comprises works of art by that sculptor, and others left by him to the Danish nation, for which a separate building has been erected. C. contains a number of well-supported benevolent institutions. Since the war of 1864, C. has rapidly recovered its commercial activity, and now its trade is steadily increasing; between 8,000 and 9,000 vessels annually enter its port. The chief exports are grain, rape-seed, butter, cheese, beef, cattle, wool, and hides. Excellent watches are made at C.; its royal porcelain works have long enjoyed a European reputation; but besides these

and a few manufactories for gloves, glass, etc., C. has no branches of industry worthy of any special notice in this article.

About the middle of the 12th c., C. was an insignificant fishing-village, in the neighborhood of which Bishop Axel, or Absalon (q.v.), built a castle. He bequeathed the castle, village, and neighboring district to the bishopric of Roeskilde. In 1254, the village obtained the privileges of a town, and in 1443 King Christopher made it the cap. of the kingdom. It was several times attacked by the Hanseatic League; was besieged and bombarded by the Swedes in the 17th c.; suffered grievously by fires in 1728, 94, and 95; witnessed a great sea-fight in its roads 1801, Apr. 2, when the English, under Sir Hyde Parker, with Nelson as his second in command, were victorious over the Danish fleet; and was bombarded by the English 1807, Sep. 2—5, when great destruction was wrought, both in houses and public buildings, and about 2,000 persons lost their lives.

COPEPODA, n. *kōp-ěp'ō-dă* [Gr. *kōpē*, an oar; *podēs*, feet]: oar-footed animals, an order of crustacea.

COPER: see under COPE 3.

COPERNICAN, a. *kō-pēr'nĭ-kăn*: pertaining to the system of *Copernicus*, celebrated Prussian astronomer, who taught that the earth revolves round the sun (died 1543).

THE COPERNICAN SYSTEM is that which represents the sun to be at rest in the centre, and the earth and planets to move round it in ellipses; in other words, it is that which we now know, on unquestionable evidence, to be the true system of the world. It got its name from Copernicus (q.v.), but, in fact, it may be described as being a growth to which he was only one of many contributors. The merit of having first formed the general notion of the system seems to be due to Pythagoras; Copernicus has the credit of having, after the lapse of centuries, again drawn the attention of philosophers to it, and of having greatly increased the probability of its truth by his calculations and arguments; for the rest, the glory of having matured its idea belongs to Kepler, Galileo, and others, and to Newton, who, through the discovery of the law of gravitation, demonstrated its truth effectually. Many who have been used to reverence the name of Copernicus in connection with this system, would be surprised to find, on perusing his work *De Revolutionibus Orbium*, how much of error, unsound reasoning, and happy conjecture combined to secure for him in all times the association of the system with his name.

De Revolutionibus Orbium, dedicated to Pope Paul III., consists of six books, in which Copernicus undertook to demonstrate his whole system. The character of reasoning which then passed for demonstration, must be borne in mind in judging of the author's procedure in establishing his various positions. It was then thought a sufficient demonstration of a phenomenon to make a supposition, on which its occurrence would be intelligible, without attempt-

COPERNICAN.

ing to bring the supposition itself, by an induction of facts, within the truth of nature; many abstract propositions, too, which would now appear silly, were at that time universally admitted to be of great weight in scientific arguments.

Illustrations of both these peculiarities may be gleaned from the first of the six books of *De Revolutionibus*. It contains the following propositions: 1. That the universe is spherical. This is established by such arguments, as that the sphere is the most perfect figure, etc. 2. That the earth is spherical, which flows from the same kind of considerations. 3. That the earth and sea make one globe. 4. That the motions of all the heavenly bodies must be uniform and circular, or compounded of uniform and circular motions. Here, again, we meet with singular reasons. A *simple* body must move circularly, and nothing but circular motion could give periodicity to phenomena. 5. That, supposing the distance of the stars to be immense, there is no reason why the earth should not have a motion round its axis as well as a motion in its orbit. 6. That the sphere of the stars is immensely distant. The proof is fanciful, and shows that Copernicus had no notion of a universe of stars pervading space. 7 and 8. The ancients were wrong in placing the earth at the centre of the universe. The arguments under this head are as imaginative as those which they were designed to refute. The falling of a body to the earth he deduces from the assumption, that it is only given to wholes to move circularly, while it is of the nature of parts separated from their wholes, to move in right lines. That there must be a *centrum mundi*, an entity unknown to modern science, is admitted, the question being as to its position. 9. It is possible for the earth to have several motions. 10. He establishes the order of the planets, and draws a diagram of the system much as it is now represented. Following the old systems, such as the Ptolemaic, he lays down *a sphere* for the fixed stars. (See FIRMAMENT.) It is clear, also, that he had no idea of the motions of the planets other than that they were such as would be caused by their being fixed in immense crystal spheres revolving round the sun.

The sum of Copernicus's astronomical achievements is, mainly, the shifting of the centre of the solar system from the earth to the sun, and the consequent explanation of the alternation of day and night by the earth's rotation on its axis, and of the vicissitude of the seasons by the earth's revolution round the sun. This complete transformation in astronomy was due, in the first instance, to the sense of order in Copernicus's own mind, which, ever more clearly, protested against the inverse conception of a much smaller body at the centre, and a far greater at the circumference, and all the repugnant notions regarding the movements of the planets which such a conception involved. Experimental proofs of the earth's rotation, or the conditions for the realization of the fact, such as we now have in overwhelming abundance, there were then none; but discriminating motion as an attribute of matter, and space as the scene but

COPERNICIA—COPERNICUS.

not the subject of motion. Copernicus explained how the celestial sphere was but a limitation of space, and its movement only apparent; and how the 'backward loopings' of the paths pursued by the planets were only the perspective result of their real movements in conjunction with the real movements of the earth. Such was the comprehensive scheme of astronomy conceived by him; but it was impossible for him, with the instruments and ascertained facts then at his disposal, to master the details. Instead of grasping the idea of elliptic orbits, he still abode by that of uniform circular motion, and had therefore to retain the 'epicycles' to account for 'irregularities,' though he reduced this apparatus of checks and balances to the number of thirty-four. It was reserved for Kepler to dispense with the epicycles. See PTOLEMAIC SYSTEM: ASTRONOMY: KEPLER. Rom. Cath. churchmen received Copernicus's work with much favor; the only theological objections came from the Protestants. Luther denounced him as an arrogant fool who wrote in defiance of Scripture, and Melanchthon urged the suppression of such mischievous doctrines by the secular power. The conduct of the *De Revolutionibus* through the press having been delegated by Copernicus's friend, George Joachim von Lauchen (Rheticus) to Osiander (q.v.), the latter, by way of conciliating existing prejudices, foisted on the work a preface (*Praefatiuncula*) quite foreign from Copernicus's intentions, in which the doctrine of the earth's rotation is represented as a mere hypothesis. Till very recently, this preface has generally been regarded as from Copernicus himself.

COPERNICIA: see CARNAHUBA PALM.

COPERNICUS, *ko pēr'nī-kūs*, NICOLAS: founder of the modern astronomy: 1473, Feb. 19—1543, May 24; b. Thorn, W. Prussia, lately belonging to the order of the Teutonic Knights (q.v.), but now a part of Poland. His father, a Polish subject, was apparently a Germanized Slav, and his mother of pure German extraction. C. seems to have spoken German as his mother-tongue; but Poland and Germany still dispute with each other the honor of producing him. Brought up under the guardianship of his uncle Lucas, prince-bishop of the great Prussian diocese of Ermland, he matriculated at Cracow 1491, and there studied mathematics, optics, and perspective. Leaving without taking a degree, he enrolled himself 1496 in the 'Natio Germanorum' of Bologna Univ. as a student of canon law, and was next year appointed canon of Frauenburg, the cathedral city of the diocese of Ermland, on the shores of the Frisches Haff. The year 1500 he spent at Rome, where he lectured on astronomy, and (Nov. 6) 'observed an eclipse of the moon.' The following year he began the study of medicine at Padua, medicine in that age being essentially dependent on astronomy, and was at Ferrara, 1503, invested with the doctorship of canon law. In 1505, he left Italy never to return to it, and settled in his native Prussia. Though 'Scholasticus' of Breslau till 1538, and canon of Frauenburg, C. never became a priest.

Appointed permanent medical attendant on his uncle, he lived with him, 1507–12, in the princely castle of Heilsberg, 46 m. from the town of Frauenburg, where, besides thinking out his new astronomy, he had toilsome administrative and other duties to perform, involving him in frequent journeys. After his uncle's death, 1512, he lived at Frauenburg with an income as canon calculated at about \$2,250 of present money, not merely to study the stars in his tower *Curia Copernicana*, but to execute difficult and multifarious offices as bailiff, military gov., judge, tax-collector, vicar-gen., and physician. These offices he fulfilled with vigor and success, even while his difficulties were increased by the intrigues and wars which ultimately led to the restoration of West Prussia to the Teutonic Knights, and its incorporation with the Prot. state of Brandenburg. The coinage having been grossly debased by the Teutonic Knights and the three leading commercial towns of Prussia, C. set himself strenuously to the task of its reform, and advocated the establishment of a single mint for the whole of Prussia. In 1523, he was appointed administrator-gen. of the diocese.

The *De Revolutionibus* he completed 1530, but could not be prevailed on to give it to the press till close on the end of his life. In 1542, he was seized with apoplexy, accompanied by paralysis on the right side. 1543, May 24, the first printed copy of the work arrived at Frauenburg, and was touched by his dying hands only a few hours before he expired. His memory gone, and his faculties all obscured, it could only be said that he seemed to know what it was that he touched.

Besides the *De Revolutionibus*, C. wrote and published at Cracow a Latin translation of the Epistles of the Byzantine author Theophylactus Simocatta, and a treatise on trigonometry. His life was written by Gassendi, and more recently by Von Hipler (1873); and Polkovski (Warsaw 1873). By far the most complete account of C.'s life and labors is, however, the great work by Dr. Prowe, the first vol. of which was published at Berlin 1883. C.'s family name of *Koppernigh* is derived from a village so called in Silesia, and was Latinized by C. as *Coppernicus*, and by him generally so spelt.

COPESMATE, n. *kōps'māt* [*cope*, to buy and sell, and *mate* (see CORE 3)]: in *OE.*, an associate or partner in trading; a mute; an associate.

COPHINUS, n. *kōf'ī-nūs* [Gr. *kophīnos*, a basket]: in *geol.*, a term applied to certain curious organic markings.

COPIAPO, *kō-pè-â-pō'*: volcano, peak of the Andes, in the n. of Chili, on the e. frontier of the dept. of C., lat. 27° 32' south.

COPIAPO': river in the n. of Chili, flowing w. from the Andes 120 m. to the Pacific; its mouth is in lat. 27° 20' s., long. 71° 2' west. It is nearly dried up ere it reachest the sea.

COPIAPO': town of Chili, cap. of the dept. of C., a division of the n. province of Atacama. C. stands on the

river Copiapo, 30 m. from its mouth, in the centre of a rich mining district. The town, regularly laid out, is connected by railway with its port of Caldera, about 20 m. n. of the mouth of the river. The C. railway, 120 m. long, is largely of Brit. ownership. Earthquakes are frequent, and the houses are slightly built. Pop. (1885) 9,916.

Port C. is a village at the mouth of the river: pop. abt. 1,200.

The dept. of COPIAPO, is rich in silver and copper, but, except on the banks of streams, almost valueless for agriculture. Exports from this region are copper, silver, cobalt, ore, and hides. Imports, almost wholly from Great Britain, are coal, iron, bricks, machinery, etc. There is some trade across the Cordillera with the Argentine provinces.

COPIED, COPIER: see under COPY.

COPIOUS, a. *kõ'pĩ-űs* [L. *copiosus*, having abundance—from *copia*, plenty: It. *copioso*: F. *copieux*: comp. Gael. *cob*, plenty, abundance]: abundant; plentiful; in great quantities; not barren; full in matter. CO'PIOUSLY, ad. -*ű*. CO'PIOUSNESS, n. abundance; full supply; great plenty.—SYN. of 'copious': ample; abundant; plenteous; exuberant; rich; full; overflowing; diffuse; discursive; prolix.

COPLAND, n. *kõp'lănd* [W. *cop*, the top of anything, and *land*]: a piece of ground terminating in a *cop* or angle.

COPLAND, *kõp'land*, JAMES: 1792–1870; b. at Deerness, in the Orkneys: physician. After studying medicine at Edinburgh, he travelled on the continent and in Africa. He settled in London about 1820, was made a member of the Royal College of Physicians, and became editor of the *London Medical Repository*. His *Outlines of Pathology and Practical Medicine*, in which he especially treated of the ganglionic nerves and their functions, and proposed a new and more simple classification of diseases, appeared 1822, and *Elements of Physiology* 1824. But C.'s most important work was the *Dictionary of Practical Medicine*, to which he devoted the labor of many years. He published, besides various contributions to medical periodicals, a treatise on Palsy and Apoplexy, and, in connection with Dr. Annesley, one *On the Diseases of Warm Climates*.

COPLEY, *kõp'ľ*, JOHN SINGLETON: 1737, July 3—1815; b. Boston: historical painter. He was the father of the late Lord Lyndhurst. In 1774, he went to England, and after a visit to Italy, settled permanently in London. In 1783, he was elected a member of the Royal Acad. C.'s best work is the *Death of Lord Chatham*, now in the national collection. Other notable works are his *King Charles Ordering the Arrest of the Five Members of Parliament*, *Death of Major Pierson*, *Assassination of Buckingham*, *King Charles Signing Strafford's Death Warrant*.

COPPER.

COPPER, n. *kŏp'pēr* [L. *cuprum*, copper—from *Cyprus*, where found in abundance: Ger. *kupfer*]: an elementary body, being a metal of a brownish-red color; any vessel made of it; a large boiler; a coin of copper: V. to cover or sheathe with sheets of copper. **COP'PERING**, imp. **COPPERED**, pp. *kŏp'pèrd*. **COP'PERISH**, a., or **COPPERY**, a. *kŏp'pēr-ī*, containing copper; tasting or smelling like copper. **COPPER-BOTTOMED**, sheathed with copper, as a ship. **COPPER BUTTERFLIES**, n. plu.: Eng. name of the small butterflies belonging to the family *Lycanidæ*, and specially to its typical genus *Lycæna*. **COPPER-FASTENED**, fastened with copper bolts. **COPPER GLANCE**, a valuable but scarce ore of copper, consisting of sulphide of copper. **COPPER-HEAD**, a venomous American snake, which gives no warning of its attack; a name given to those in the Northern states during the American war of secession, 1861-65, who were supposed to favor the South. **COPPER-NICKEL**, an ore of nickel of a color like copper, found in Westphalia, used in the manufacture of German silver; arsenide of nickel. **COPPER-NOSE**, -*nōz* [F. *couperose*, an extreme redness of the face, with many pimples about the nose]: a red nose. **COPPER-WORM** [Eng. *copper*, and *worm*]: a mollusk, *Teredo navalis*; a moth that frets garments; a worm breeding in one's hand. **COPPER-PLATE**, a plate of polished copper on which copies from paintings, figures, or designs are engraved; fine clear writing like engraving: see **ENGRAVING**. **COPPER-PYRITES**, an ore of copper and sulphur of a brass-yellow color; a mixture of the sulphides of iron and copper.

COP'PER: one of the most anciently known metals. In the earlier times, C. does not appear to have been used by itself, but always in admixture with other metals, principally tin, forming what is now called bronze (q.v.). There is every reason to believe, that next to the large quantities of tin which they obtained, one of the great inducements which the Phœnicians had in making searches for metals in Great Britain was the C. which they procured in their workings in Cornwall.

C. is sometimes found in nature in a state of purity, but generally it occurs associated with oxygen and carbonic acid, forming the native carbonate of C. or *malachite*, CuCO_3 , or with iron and sulphur, forming the native sulphurets of C. and iron or *C. pyrites*, $\text{Cu}_2\text{S}, \text{Fe}_2\text{S}_3$. In smaller quantity, C. occurs as the oxide, CuO , and sulphate, C_2SO_4 , and in all cases the ore is obtained from fissures or veins in other rocks. The principle yield of C. ore in Great Britain is from the mines in Cornwall, but large supplies are also obtained from Australia, from Cuba and Chili, and recently from Little Namaqua Land, S. Africa. In N. America, in the neighborhood of Lake Superior, C. ore occurs abundantly, and a thick vein of metallic C. is there found.

In the extraction of C. from its ores, the metallurgic processes followed are very tedious and complicated, mainly because of the difficulty of separating the iron and sulphur from the copper. The general principle which regulates the working up of the ore is to burn away the sulphur (S) as

COPPER.

sulphurous oxide, SO_2 , and to carry off the iron by means of fluxes in the form of scoriæ or slag. Metallurgists enumerate ten distinct steps in the production of commercially pure copper.

C. (symb. Cu, from lat. *cuprum*) has the atomic weight 32. It is the only red metal, has the specific gravity 8.78 when cast, and 8.96 when rolled or hammered; fuses at 1996°F . (Daniell), and at a white heat passes off in vapors and burns with a green flame. It is very malleable, and can thus be beaten out into thin leaves; is very ductile, so as to admit of being drawn out into thin wires; and in tenacity is inferior only to iron. It is a powerful conductor of electricity, and hence is employed in the construction of lightning-conductors, and in telegraph-wires for underground or submarine communication. C. is used largely also in the sheathing of wooden vessels, and in coinage: see ALLOY.

C. forms many compounds. There are two oxides, the black oxide, CuO , and the red oxide Cu_2O . The latter is employed in coloring glass of a ruby-red tint. The *green rust* which forms on the surface of a C.-sheathed ship, and on C. coins and vessels which lie in moist places for some time is a carbonate of C., and is due to the carbonic acid and oxygen of the air acting upon the C. in the presence of moisture. It is very poisonous, and hence any barnacles which may attach themselves to the C. sheathing are poisoned. The carbonate of C., under the name of *blue verditer*, is largely prepared and sold as a pigment. The subchloride of C., moistened and exposed to the air, yields the pigment known as *Brunswick green*. There are several compounds obtained by allowing acetic acid to act upon oxide of C., which are commercially called *blue* and *green verdigris*. The sulphate, *blue vitriol*, $\text{CuCO}_3 \cdot \text{CuH}_2\text{O}_2 + (\text{H}_2\text{O})_5$, is prepared by dissolving the black oxide in sulphuric acid, and allowing the salt to crystallize out. The crystals are large, and present a fine blue color. It is soluble in water, and is extensively used by the dyer and calico-printer for the production of several blue and green colors. The solution of blue vitriol is used also in the preservation of timber from dry rot and it forms a constituent of some writing inks.

Mineralogy.—Native C. is not of very rare occurrence; it is sometimes massive, or in grains, plates, etc.; sometimes crystallized in cubes or octahedrons; sometimes it assumes dendritic and other beautiful forms. Great masses of native C. have been found in N. and S. America. One of the most productive copper mines in existence is that of Ookiep, Little Namaqua Land, s. Africa. In 1890, the mines of the United States produced 226,055,962 lbs. of copper. Of this 99 per cent. came from four states, as follows: Montana, 98,222,444 lbs.; Michigan, 87,455,676; Arizona, 31,586,185; and New Mexico, 3,686,137. In addition, Colorado produced 1,170,053 lbs.; Idaho, 156,490; California, 151,505; Wyoming, 100,000; Vermont, 72,000; Utah, 65,467; Nevada, 26,420; and the Southern States, 18,144. From the lead smelters and refiners came 3,345,442 lbs.

COPPERAS—COPPERED.

In 1880, 61,920,696 lbs. of the total production came from the mines east of the 100th meridian, and only 5,410,546 lbs. from the mines west of that meridian. In 1890, the mines east produced 87,545,819 lbs., and the mines west 135,164,701 lbs. This does not include the amount supplied by the lead smelters. In the four leading states of Mich., Mont., Ariz., and New M. in 1890, the total ore mined was 3,322,742 short tons, at a cost of \$12,062,180. Of this \$6,096,025 went for wages. The office force was 79. There were 2,563 employed above ground and 6,158 below ground. There was \$62,623,228 of capital invested, of which \$50,113,325 was in land, \$5,817,680 in buildings, \$3,386,588 in tools, and \$3,305,635 in cash. The entire product of fine C. was 220,569,438 lbs., worth in the New York markets \$25,000,000. The recent output of C. from mines in the United States, with its value at New York city, was: (1891) 295,812,076 lbs., value \$38,455,300; (1892) 352,971,744 lbs., \$37,977,142; (1893) 339,785,972 lbs., \$32,054,601; (1894) 364,866,808 lbs., \$33,141,142; (1895) 392,639,964 lbs., \$38,682,347. What are called C. ores in commerce, generally consist of the true ore dispersed through rock, and are therefore variable in productiveness. Among the most plentiful valuable C. ores is the *C. Pyrites* already mentioned, or *Yellow C. Ore*; but there is a richer ore called *Purple C.* or *Variegated C.*, or *Bornite*, also a compound of sulphur, C., and iron. *Malachite* and *Azurite*, both consisting essentially of carbonate of C., are valuable ores; as are some ores essentially composed of oxygen and C., particularly *Red C. Ore (Cuprite)* and *Black C. Ore (Tenorite)*. Some ores of C. contain also silver, and some contain arsenic, antimony, etc. *Gray C. Ore* is very compound, containing silver, mercury, zinc, antimony, arsenic, iron, and sulphur. The production of C. in the United States 1901 was 602,072,519 lbs., of which over one-third was mined in Montana.

COPPERAS, n. *köp'për-ăs* [F. *couperose*; OF. *coperose*, copperas: It. *copparosa*, copperas—from L. *cupri rosa*, the rose or flower of copper]: familiar term for the sulphate of iron; green vitriol: see **IRON**.

COPPERED, **COPPERING**, in Ship-building: terms used in reference to the sheathing applied to the bottom of timber-built ships. The copper so used is in sheets, weighing from 18 to 32 ounces per sq. ft., and measuring usually 48 inches by 14. A layer of felt, paper, or coarse linen, is first applied to the planking; and the copper is nailed down upon it. So much of the bottom as is immersed in the water is thus covered, protecting timbers from mollusks, cirrhopods, and weeds; consequently, the ship can sail quicker than if no such sheathing were applied. Some builders copper their ships up to the load-water line, while others go no higher than the light-load line; there being a difference of opinion whether the intermediate space, sometimes dry and sometimes wet, ought to expose a wood or a copper surface.

A *copper-bottomed* ship always ranks better at Lloyd's than one not so sheathed. The same is the case with a ship

COPPERHEAD—COPPICE.

said to be *copper-fastened*; i.e., in which bolts of copper are used instead of iron in those parts of the ship immersed in water. Ships can be insured at a lower premium when thus provided.

COPPERHEAD (*ancistrodon contortrix*): North American serpent, known locally also as 'chunk-head' and 'deaf-adder': is found from New England to Fla., between the Atlantic Ocean and Alleghany Mountains: is exceedingly venomous, and in point of danger ranks next after the rattlesnake. It has a thick, triangular head, poison fangs in the upper jaw, long thick body, smooth scales, and horny tipped tail, and in color varies from nut-brown to flesh tints, with darker transverse bars. In length it seldom exceeds three feet, and averages 20 inches.

COPPER IN'DIGO: ore of copper of an indigo-blue color, found in spheroidal masses, in Thuringia and Vesuvius; a very nearly pure sulphuret of copper. Its composition in 100 parts, is copper, $64\frac{1}{2}$; sulphur, $32\frac{1}{2}$; iron, $\frac{1}{2}$; and lead, 1.

COP'PERMINE RIVER—so named, in common with the mountains to the west of it, from the metallic products of the vicinity—enters a bay of the Arctic Ocean about lat. 68° n., and long. 116° w. Its overland discovery by Lieutenant Hearne, then of the Hudson's Bay Company's service, in June 1771, excited considerable interest, as uncontestably proving that the supposed Strait of Anian, whatever might be the truth as to its westward terminus, had its eastward outlet, if any, only in the Icy Sea. The C. R. rises near a feeder of Great Bear Lake, which itself is tributary to the Mackenzie—the former of the diverging water-courses taking a vastly shorter route to the coast than the latter. Hence the C. R. is throughout little better than a series of falls and torrents, being thus, even without regard to its isolated position, but little available in itself for navigation.

COPPICE, n. *kōppis*, or **COPSE**, n. *kōps* [OF. *copeiz*, wood newly cut: Gr. *kop'adēs*, trees cut down]: a natural wood or plantation, of trees of small growth, of which the trees are cut over from time to time, without being allowed to attain the size of timber trees, sending up new shoots from their roots or stools. Some kinds of trees—as the firs—are incapable of being treated in this manner, refusing to send up new shoots; but many—as the oak, birch, chestnut, ash, elm, maple, alder, hazel, and willow—very readily do so, at least if they have not been allowed to attain too considerable a size before being cut over. C. woods are planted sometimes to vary and beautify the landscape, but usually for profit. It often happens, that owing to scantiness of soil or to unfavorable subsoil, oaks and other trees, after growing vigorously for a number of years, are arrested, and remain almost stationary in their growth. In such circumstances it is advantageous to cut them over early, and to treat the plantation as a C., the former vigor being again manifested in the young shoots, and the land yielding in this way a greater return. Oak is much planted

COPPIN—COPROLITES.

as C.-wood, in consequence of the demand for its bark: in some regions, the trees are cut over every 12 years. The largest pieces of the wood are used for making wheel-spokes, and for other purposes of timber; the smaller portions for charcoal, and firewood. Ash is sometimes planted as C., with a view to using the strong elastic wood for handles of implements, hurdles, hoops, etc. Chestnut copses are planted in England to supply hop-poles. Hazel is a very common C.-wood, in demand for making crates, etc. Some species of willow, especially *Salix caprea*, are cultivated as C., and cut every five, six, or seven years, for hoops, crates, etc.: see WILLOW.

In cutting C.-wood, care is taken to dress the stools so that water may not lodge in them and cause them to rot. Extensive copses are sometimes divided into portions, of which one is cut every year.

COPPIN, n. *kōp'pīn*: see COP.

COPPLE-CROWN, *kōp'pl-krown*: a crested crown or head.

COP'RA: dried kernel of the cocoa-nut, from which cocoa-nut oil has been expressed. It is much used in India as an ingredient of curries.

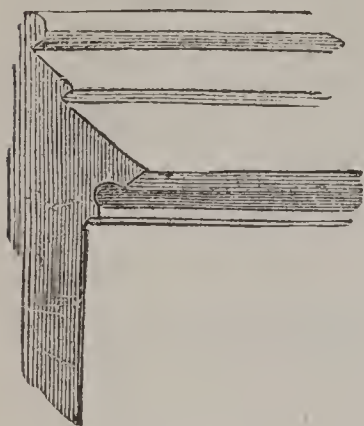
COPRIDÆ, n. plu. *kōp'rī-dē* [Gr. *kopros*, dung; L. fem. plu. suf. *-idæ*]: in some classifications, a family of lamellicorn beetles, though Swainson reduced them to a series of genera placed under his sub-family *Scarabeinæ*. They make large deep holes beneath dry dung. They abound throughout the world, the largest being in Africa and the East Indies. COPRIS, n. *kōp'ris*, the typical genus of the family *Copridæ*.

COPROLITE, n. *kōp'rō-līt* [Gr. *kopros*, dung; *lithos*, a stone]: in *geol.*, the petrified dung of animals, appearing as gray, hard, nodular masses. COP'ROLIT'IC, a. *-līt'ik*, containing or resembling coprolites. COPROPHAGOUS, a. *kōp-rōf'ă-gūs* [Gr. *phagein*, to eat]: feeding on excrements or filth. COPROPH'AGI, n. plu. *jī*, or COPROPH'AGANS, n. plu. *-gāns*, a family of beetles which live on the dung of animals. It includes the genera *Ateuchus* (that which contains the sacred beetle of the old Egyptians), *Copris*, *Onitis*, *Onthophagus*, and *Aphodius*.

COP'ROLITES, in *Geol.*: fossilized excrements of animals, found in the Secondary and Tertiary strata of the earth's crust. Their true nature was inferred first from their occurrence in the bodies of several species of *Ichthyosaurus*, in the region where was situated the intestinal tube. It has been since shown that they are the voidings chiefly of saurians and of sauroid fishes. They often contain portions of scales, bone, teeth, and shells, the indigestible parts of the food on which the animals lived. Occasionally, they may be found exhibiting the spiral twisting and other marks produced by the conformation of the intestinal tube, similar to what is noticed in the excrement of some living fishes. These peculiar markings obtained for them the name, when their true nature was unknown, of 'larch-

COPS—COPTIC.

cones' and 'bezoar-stones.' C. are found to contain a large quantity of phosphate of lime; and as this forms a valuable manure, the deposits containing them have been of late years largely quarried by the manufacturers of artificial manures.



Coping.

COPS—COPING [see **COP**]: merlons or rising parts of battlements; but the term coping is usually applied to the covering course of a wall, which is made either sloping or round, so as to throw off water. Where the coping is of hewn stone, it is frequently ornamented with a circular molding running along the top, and sometimes the angle at the top is simply taken off, to prevent it from being chipped.

COPSE, n. *kōps*: another form of **COPPICE**, which see. **COP'SY**, a. *-sī*, having copses.

COPSYCHOS, n. *kōp'sī-kōs* [Gr. *kopsichos*, a blackbird]: genus of birds, sub-family *Erythacinæ*, or Robins.

COPTIC, n. *kōp'tik* [a supposed corruption of the L. *Ægyptiūs*, an Egyptian: Gr. *Aiguptos*, Egypt]: the language of the ancient inhabitants of Egypt, called Copts: **ADJ.** pertaining to the Copts. **COPTS**, n. plu. *kōpts*, or **COPTI**, n. *kōf'tī*, descendants of an anc. Egyptian race; the Christian inhabitants of Egypt. The C. are in number about 150,000, only about a fourteenth of the population of the country. There are about 10,000 of them in Cairo. They are not of great stature, have black eyes, and rather curly hair, and in a number of points resemble the ancient Egyptians, from whom also they have inherited the custom of circumcision. They dress like the Moslems, but are generally distinguished by a black turban. Their character is in general gloomy, deceitful, and avaricious. They are very expert in calculations, and are therefore employed as accountants and book-keepers, by which they have acquired great influence in the country, filling very important posts. In religion they are generally monophysites (q.v.) of the Jacobite sect; smaller sections of them, however, are united to the Greek and Rom. Cath. Churches. They ascribe their conversion from heathenism to St. Mark, whom they regard as the first patriarch of Alexandria. Their highest dignitary is the patriarch of Alexandria, whose residence, however, is in Cairo. Their other orders of clergy are bishops, archpriests, priests, deacons, and monks. The patriarch is named by his predecessor from among the monks of the convent of St. Anthony, or chosen from among them by lot. He is not permitted to marry. He nominates the Metropolitan of Abyssinia: see **ABYSSINIA**. There are 12 bishops. The C. are very strict in their religious observances, and hate other Christian sects even more than they hate the Moslems. They baptize by immersion; practice unction, exorcism, and auricular confession; and celebrate the Lord's Supper with leavened

bread which has been dipped in wine. They keep Friday with great strictness as a fast-day. They have many schools, but only for boys, who learn the Psalms, Gospels, and Apostolic Epistles in Arabic, and then the Gospels and Epistles in Coptic. The Coptic, however, is not grammatically taught, and is not now a spoken language, having been everywhere supplanted by the Arabic. It has not been spoken in Lower Egypt since the 10th c., but lingered some centuries longer in Upper Egypt. It is, however, still used by the C. in their religious services, but the lessons, after being read in Coptic, are explained in Arabic. The Coptic literature consists in great part of lives of saints and homilies, with a few Gnostic works. The alphabet was borrowed from the Greeks at the time of the introduction of Christianity, with the addition of a few letters. There are two principal dialects of the language—the Sahidic or Upper Egyptian, and the Memphitic or Lower Egyptian which is sometimes exclusively called Coptic. A third dialect, the Bashmuric, of which only a few remains exist, was spoken in the Delta, and is interesting from its points of resemblance to the language of the hieroglyphics.

COP'TIS: genus of plants of the nat. ord. *Ranunculaceæ*. *C. trifoliata* is a native of the north of Europe, Siberia, Greenland, Iceland, and N. America. It grows in swamps. From its long, thread-like, golden-yellow rhizomes, it derives the name of *Golden Thread*. Its leaves have three wedge-shaped leaflets, and its leafless stems bear each a solitary, rather pretty white flower. Very similar to the *C. trifoliata* is *C. teeta*, the *Golden Thread* of Assam, the root of which has long been in high repute in Assam and neighboring countries. It has come into extensive use in India as a bitter tonic, and is sold at a very high price. Great efficacy is ascribed to it as a tonic for patients beginning to recover; but it is of no value as a febrifuge.

COPULA, n. *köp'ũ-lă* [L. *cop'ũla*, a couple, a tie: It. *copula*: F. *copule*]: in *logic*, the word which couples or unites the two notions of a sentence—viz., the subject and predicate—into one judgment or thought. Thus, in the sentence, 'Art is long,' *art* is the subject, *long* the predicate, and *is* the copula. The C. is either expressed apart by some part of the verb 'to be,' as in the above sentence, or it is contained in the word expressing the predicate—as, 'The flower blooms'—i. e., *is* blooming. COP'ULATE, v. *lăt* [L. *copulātus*, joined]: to unite in pairs; to have sexual intercourse. COP'ULATING, imp. COP'ULATED, pp. COP'ULA'TION, n. *-lă'shũn* [F.—L.]: sexual intercourse; in *OE.*, union in general. COP'ULA'TIVE, a. *-lă'tiv*, that unites or couples; that connects: N. in *gram.*, a word which connects. COP'ULA'TORY, a. *-těr-ĩ*, that unites.

COPUS CUP, *köp'pũs* [mid. L. *copus*, a tile, a measure]: a cup of spiced beer or wine.

COPY, n. *köp'ĩ* [F. *copie*, an imitation—from mid. L. *copiũ*, a transcript or copy—from L. *copiũ*, abundance: It. *copia*—*lit.*, one of many or abundance of duplicates]: an

COPY—COPYING.

imitation; a likeness of a thing; a pattern or example for imitation: V. to write, print, paint, etc., from an original or pattern; to imitate; to transcribe; to follow in habits or manners; to try to be like; to act in imitation of. COP'YING, imp. -*ing*. COP'IED, pp. -*id*. COP'IER, n. -*ier*, one who. COP'YIST, n. -*ist*, a transcriber or imitator. COPYRIGHT, n. property in a literary work, or in a work of the fine arts. COPY BOOK, a book containing examples for imitation, as of writing. COPYHOLD, in *England*, a tenure of land or houses by copy of court-roll. COPYHOLDER, n. one who. COPYING-PRESS, a machine for taking copies from written letters. To COPY OUT, to transcribe at length.—SYN. of 'copy, n.': example; transcript; duplicate; counterfeit; sample; instance; model; illustration; case.

COP'Y, in the Fine Arts: reproduction of a work, whether painting, statue, or engraving, not by the original artist. A C. made by the original painter himself is called a repetition or commonly of late a replica (in French, a *doubllette*). It is said that copies are of three degrees: first, where the original is mechanically imitated in its minutest details (this is always done when an engraving is to be obtained); second, where only the principal traits are imitated; and, third, where the general idea merely is borrowed. A C. of a statue, or other piece of sculpture, taken from a mold, is called not a C., but a *cast* (q.v.).

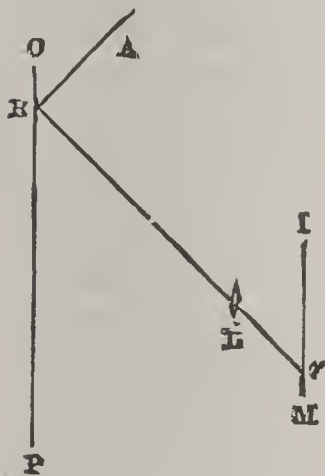
COP'YHOLD, in the Law of England and Ireland: species of estate or right of property in land, in Ireland and England, nearly resembling in many particulars the feurights of Scotland. C. is expressed technically as 'tenure by copy of court-roll, at the will of the lord, according to the custom of the manor.' This means, that it is tenure of land, being part of a manor, the title being evidenced by the court-rolls of the manor, and the right of the owner being in conformity with the immemorial customs of the manor. The addition, 'at the will of the lord,' serves only as a memorial of the derivation of this species of estate from the estates granted in old times to the bondsmen, or *villeins* (q.v.), which were of course resumable at the pleasure of the lord. But the will of the lord is now absolutely controlled by the custom of the manor, which forms the law of the tenure; and as this custom must be immemorial, i. e., extending to the reign of Richard II., no C. can now be created. Legal provision has been made for the gradual extinction of this inconvenient species of tenure.

COPYING, in Photography: reproduction of paintings, engravings, manuscripts, maps, etc. For the kinds of camera and lens most suitable for the purpose, see the respective titles. The quality and condition of chemicals necessary are based upon the facts, that long exposure is almost invariably required, and that, in the majority of cases, it is desired to copy black marks upon a white ground, as in a sheet of music, for example. Where it is obvious that nothing that can be called a middle tint is required, but simply pure black and white, recourse should be had to organic matter in the bath; a little acetate of

soda, and an extra amount of acetic acid, may be added, and an old collodion containing free iodine employed.

It is important that the work or surface to be copied should be placed in a strong light, and exactly at right angles to the axis of the lens, which should be furnished with a *small* stop. These three conditions, it will be seen, are such as are calculated to insure density in the blacks of the negative, freedom from distortion, and sharpness at the edges of the picture. The copying of oil-paintings seems to the amateur, at first sight, to present almost insuperable difficulties, on account of the reflected light from the varnish passing through the lens, and producing black patches on the negative. This may, however, be completely avoided by the employment of a lens of long focus, which admits of the oblique pencils of light passing off without entering the camera.

This will become more intelligible by reference to the following diagram, in which OP is supposed to be an oil-painting, L the lens, and IM the image. Let A be a ray of light, incident at R; reflection at the varnished surface will cause it to pass through the lens, and come to a focus on the sensitive surface at *r*, causing an increased action at that point, resulting in a black patch. If, however, a lens of longer focus be employed, and the camera be moved further from the picture (as it must be to obtain the same sized image), as shown by the dotted line, it will be seen that no reflected rays can fall upon the sensitive plate, but that they



all will pass beyond the field of view.

Attention to the laws of the reflection of light, will suggest to the reader the importance also of avoiding a bright light immediately behind the camera, as the rays of light would then fall on the varnished surface, nearly at right angles, and be reflected into the camera. The oil-painting; therefore, though placed in strong sunshine, for the purpose of giving vigor to the more obscure parts, should be so arranged as to allow the light to fall on it at an angle of about 35° or 40° .

In copying transparent negatives, a somewhat different arrangement is required, as will appear from the following facts. Every object to be copied may be regarded, for the sake of illustration, as an assemblage of bright points, from each of which divergent pencils of rays are reflected, and suffer refraction on passing through the lens; an engraving or oil-painting is, in fact, in its relation to the sensitive surface, the *source of light*. In a negative, however, many of the parts of which are transparent glass, it is manifest the case is different; for if we suppose the sun or a luminous background to be placed behind the negative, *that* will act as the source of light, and any rays coming

COPYING-MACHINES.

therefrom will pass almost directly through those parts of the negative which are bare glass, to the lens; thus producing the same effect as if the transparent parts were opaque, but luminous, and emitted divergent pencils of light. It is necessary, therefore, that the rays should be made to intersect at those points where bare glass exists, and this may be accomplished by employing what is called a condensing lens, by which means negatives may be most successfully copied, by placing an artificial light behind it, or still better, by reflected sunshine through it.

Negatives are sometimes copied on glass by direct superposition in the ordinary pressure-frame, such as is used for printing photographs on paper, in which case, dry plates are used, prepared either by the albumen or collodio-albumen process; and the latent image so obtained yields a transparent positive when developed by gallic or pyro-gallic acid.

COPYING-MACHINES: contrivances for procuring duplicates of writings without the labor of transcribing them. The various machines may be reduced to two classes. In the one, the writing is first made, and then copied; in the other, the copy and the original are produced at the same time. The essence of the first method is this:—In writing the original, an ink is used that is made for the purpose, or common ink thickened by the addition of a little sugar. When the writing is dry, a damped sheet of thin unsized paper is laid upon it, and over this a piece of oiled paper. The whole is then subjected to pressure, and the damped paper is found to have taken off an impression of the writing. It is of course the reverse of the original, but the nature of the paper allows it to be read right on the other side. The machines for communicating the pressure are of various kinds. Some pass the sheets between rollers like the copper-plate press; others act on the principle of the common printing-press. A simple plan is to wrap the sheets round a wooden roller of about an inch diameter, lay this upon a table, and roll it under a flat board, pressing all the while. Another very common method of copying, is by means of prepared blackened paper laid between two sheets of thin writing-paper. The writing is traced firmly on the upper sheet, with a steel or agate point, or common black-lead pencil, and the lines are found transferred in black from the blackened sheet to the paper adjacent. By having several of these blackened leaves, a number of copies may be produced at once. The blackened paper is prepared by saturating it with a mixture of lard and lampblack, and cleaning it so far that it will not soil paper unless pressed against it.

For many years the last described process was most generally used in the United States. The multiplication of newspapers after the civil war, the rapid organization of agencies for collecting news, and the great increase of freight traffic by associated railroads necessitated a speedy method of producing numerous copies of identical reports, and the above system, commonly called manifolding, seemed to meet all requirements. It is still used by re-

COPYING-MACHINES.

porters and agents of railroad freight 'pools' in preference to more recent devices. The next most common form is provided by what is called a gelatine pad; and many modifications are in the market under a variety of patented names, such as the pentograph, hektograph, copyograph, etc. They all are composed of gelatine, or glue, and glycerine, and require a special kind of ink based on violet aniline, where a large number of copies are wanted; or on black, green, or red where a small number will suffice. Any one may prepare such a pad by following these directions: Take 3 oz. of gelatine, or white glue, soften it in cold water, boil the mass an hour in 10 oz. of glycerine, taking care that air bubbles do not form on the surface, then pour the mixture into a pan made of block tin about three-quarters of an inch deep and of a sufficient width and length to hold any size sheet of paper likely to be used, as note, letter, or cap. The mixture cools rapidly, making an elastic pad with a smooth surface. When from frequent use the surface becomes too rough or uneven for neat copying, the composition may be dissolved by placing the pan on a hot stove, care being taken lest it come to the boiling-point and thus be filled with air bubbles. When thoroughly dissolved, the pan should be removed to a cool place where the composition will soon solidify. By careful usage the same pad will last several years, and its cost when home-made is very slight. The ink commonly used is violet in color, because its lasting properties are equal to 100 copies of a single writing where the sheets are used expeditiously. Black will produce about 10 copies, green 30, and red 60. Ink may be made by dissolving 2 oz. of citric acid in 6 oz. of water, and then adding an oz. of violet aniline; or by boiling an oz. of aniline in 7 oz. of water, and adding when cool an oz. of alcohol, a half oz. of ether, three-quarters oz. of glycerine, and a few drops of diluted carbolic acid. Should the ink thicken with age, add a few drops of alcohol before using. The apparatus is used by writing with an ordinary pen and the special ink on a sheet of ordinary writing paper. The sheet is then placed, written side downward, on the surface of the pad, the hand is firmly passed over it once or twice, and the sheet carefully lifted by a corner. The writing then appears in reverse on the pad. To copy, place a clean sheet evenly on the pad, rub the hand over it once, and remove in the same way as the original. When sufficient copies have been made, the ink should be rubbed from the pad with a sponge and tepid water, and the pad laid aside in a cool place for future use. These are the principal devices in commercial and general business use. Beside them are, (1) an adaptation of the manifolding process to the typewriter, by which four clear copies may be obtained; (2) Edison's electric pen, consisting of a tube or holder in which a steel needle is made to vibrate slightly beyond the lower end by means of an electro-magnetic engine attached to the top of the holder: the vibrations of the needle as letters are traced on paper, puncture it, thus forming a stencil, which is afterward placed on a sheet of paper

COPYING-MACHINES.

and inked with a roller; the ink passes through the fine holes and reproduces the writing in the form of dots; (3) the French stenographic machine, which has a key-board of 12 black and 12 white keys, and, operated like a piano, produces marks and dots in ink on a roll of paper; (4) Zachos's steno-phonotype reporter, which acts similarly and by which a speaker may be reported without pencil or pen; (5) the blue process, used mainly by architects and engineers, which is simply a form of sun-printing in which chemically prepared paper is placed over the original drawing and exposed in a frame to the sunlight; (6) the papyrograph, for which paper and ink are specially prepared: the ink corrodes the fabric of the written sheet when soaked in water, producing a stencil from which copies are obtained the same as from that of the electric pen; (7) the automatic telegraph machine, which perforates paper with the Morse telegraphic characters, this stencil yielding copies when passed through an apparatus attached to the machine; and several others whose practical utility is still to be established.

COPYRIGHT: author's right of property in any work which he writes, and which, under certain limitations, is transferable to his heirs and assigns. Such is the chief or general meaning of the term, which now, however, embraces several varieties of right.

Books.—The idea of a right of property in literary composition is of modern origin. Nothing is heard of C. previous to the invention of printing, nor for a long time afterward. In ancient and mediæval times, books appear to have been transcribed freely by other parties than their authors, and as freely disposed of, often at great prices. After the introduction of printing, the liberty to publish books became the subject of licenses and patents; and these privileges may be said to have constituted a special monopoly of the nature of copyright. In the absence of any license or protection of this kind, authors could only resort to the common law to vindicate their real or supposed rights. But the common law of England was silent on the subject. There were serious differences of opinion among lawyers as to the availableness of an exclusive right in literary composition, viewing it as a chattel or thing that could be held, inherited, or assigned. How, it was asked, could ideas, or the way of writing a narrative, be made property? Supposing, however, that a certain structure of ideas and written words could be invested with the quality of property, it was reasonable to conclude that the property should be absolute and perpetual to the owner, his heirs and successors; such being the case it would be proper for the heirs of Shakespeare, Milton, Bunyan, and other literary luminaries of past times, to claim possession of the works of their respective ancestors; leaving them, of course, the right either to maintain a monopoly, or to suppress the works altogether. Such were the questions that puzzled the English jurists of the early part of the 18th c. A compromise appears to have been made. No decision was come to, as to whether literary composition was property in the ordinary sense of the word. Yet, looking at it as a thing on which thought and labor had been expended, and professedly 'for the encouragement of learning,' it was deemed worthy of legal protection for at least a period limited by considerations of public policy. An act of parliament was accordingly passed on the subject in 1709.*

* Until this act came into operation, the law of Scotland, as regards copyright, had been as defective as that of England. Under date 1699, Nov. 9. the following occurs in the *Domestic Annals of Scotland*, by R. Chambers. vol. iii.: 'It was customary for the Lords of Privy Council to grant exclusive right to print and vend books for certain terms—being all that then existed as equivalent to our modern idea of copyright. Most generally, this right was given to booksellers and printers, and bore reference rather to the mercantile venture involved in the expense of producing the book, than to any idea of a reward for authorcraft. Quite in conformity with this old view of literary rights, the Council now conferred on George Mossman, stationer in Edinburgh, "warrant to print and sell the works of the learned Mr. George Buchanan, in one volume in folio, or by parts in lesser volumes," and discharged "all others to print, import, or sell, the whole or any part of the said Mr. George his works in any volume or character, for the space of nineteen years."' Some

This, the first copyright act, 8 Anne, c. 19, sets out as follows: 'Whereas printers, booksellers, and other persons have of late frequently taken the liberty of printing, reprinting, and publishing, or causing to be printed, reprinted, and published, books and other writings, without the consent of the authors or proprietors of such books and writings, to their very great detriment, and too often to the ruin of them and their families: for preventing, therefore, such practices for the future, and for the encouragement of learned men to compose and write useful books, may it,' etc. The chief provisions of the act were, (1.) That authors who, after 1710, Apr. 10, had not sold their C. of works in print, were to have the sole right of printing them for 21 years; (2.) Authors of books not printed and published, and their assignee or assigns, to have the sole liberty of printing and reprinting such book and books for the term of 14 years, to commence from the day of the first publishing the same; (3.) After the expiration of the said term of 14 years, the sole right of printing or disposing of copies to return to the authors, if they were then living, for another term of 14 years.

Under this act, authors disposed of the C. of their works for the specified period, at the end of which, 28 years at most, the C. lapsed. Although the works might then have been considered public property, a custom arose among publishers of not interfering with each other's lapsed copyrights; and in a sense each assumed a kind of perpetual monopoly of the works which he had purchased for a terminable period. So stood matters, when Alexander Donaldson, an Edinburgh bookseller, (see BOOK-TRADE), broke through the conventional regulations, by issuing cheap reprints of works out of copyright. There ensued a litigation, of which it is necessary to present some details. At divers times in 1729, James Thomson sold the C. of his *Seasons* and other poems to Andrew Millar, a London bookseller, for sums amounting to £242, 10s. Thomson died in 1748. According to the Act 8 Anne, c. 19, the utmost length to which the C. of these works could be extended was 28 years, which terminated in 1757. Millar died in 1768, and his executors, in 1769, sold by auction the C. of the works in question for £505. The purchasers were 'Beckett and others.' This sale was, in reality, an imposition; for the C. had expired 1757. Aware of this fact, Donaldson, 1768, issued a cheap edition of Thompson's *Seasons*. He was now challenged for an invasion of C.; and in 1771, Beckett and others applied for, and procured, an injunction from the court of chancery to restrain him from further printing and selling the work, and to make him answerable for the profits that he had already realized. The only explanation of this extraordinary proceeding is, that the applicants for the injunction imagined that at common law they had acquired a property in Thomson's *Seasons* in all time coming. The question at

other instances of the same kind are given, making it clear that in these times books could not be printed in Scotland without authority from the Privy Council.

issue was nothing less than the creation of perpetual monopolies in literature—not for the benefit of authors and their families, but for certain publishers and their assigns. The notion of a common-law right had prevailed in granting the injunction, and the validity of such a notion was now for ever to be determined. Donaldson appealed to the house of lords. The chief points pressed for consideration were, whether at common law an author had the sole right of printing his works, and whether, possessing a right of that kind, it was taken away by the statute 8 Anne, c. 19. The lords differed in their opinion, but the decision finally was, that any right at common law was impeached and taken away by the statute; and the decree of the court of chancery was accordingly reversed: see Brown's *Parliamentary Cases*, II, p. 136. By this famed decision, it was settled that claims of C. rest altogether on the statute and its interpretations. Ever since, any one is at liberty to print and sell works of which the statutory term of C. has expired; on the simple ground, that all such works are public property.

The C. law did not extend to Ireland till after the union with that country, when (1801) the whole united kingdom was included by the Act 41 Geo. III. c. 107. Previous to this time, many of the most saleable of the British C. works were freely reprinted in Dublin, and occasionally found their way across the channel to the annoyance of English authors and publishers. The next act concerning copyrights was that of 54 Geo. III. c. 156, in 1814, by which the period of C., instead of being 14 years, and contingently for 14 years more, was fixed to be 28 years certain, and for the residue of an author's life, if he were living at the end of the 28 years.

The impetus given to literature during the early part of the present century, by the popular and voluminous writings of Scott, Byron, Moore, Wordsworth, and others, along with the growing taste for reading among the middle and less affluent classes, greatly increased the market value of C. in every species of literary production. As a natural consequence, that kind of disinterestedness so strikingly demonstrated in Robert Burns, who could hardly be prevailed on to accept a few pounds complimentarily in requital for hundreds of the most beautiful lyrics, was no longer seen; on the contrary, it became a recognized principle that an author was entitled to regard the product of his brain as purely a mercantile commodity. At length, under an impulse communicated by the assigns of some valuable copyrights about to expire, and on the assumption of benefiting the families of certain popular writers, the legislature was induced to extend the term of copyright.

By the Act 5 and 6 Vict. c. 45 called Talfourd's or Lord Mahon's act, 1842, July 1, the term of C. was extended as follows: And be it enacted that the copyright in every book which shall after the passing of this act be published in the lifetime of its author shall endure for the natural life of such author, and for the further term of seven years, commencing at the time of his death, and shall be the pro-

erty of such author and his assigns: provided always, that if the said term of seven years shall expire before the end of 42 years from the first publication of such book, the copyright shall in that case endure for such period of 42 years; and that the copyright in every book which shall be published after the death of its author shall endure for the term of 42 years from the first publication thereof, and shall be the property of the proprietor of the author's manuscript from which such books shall be first published, and his assigns.' In the case of subsisting copyrights, the term was to be extended to 42 years, except when they belonged to an assignee for other consideration than natural love and affection; in which case they were to cease at the expiration of the 28 years, unless their extension were agreed to between the proprietor and author. In this act, there is a remarkable clause giving power to the judicial committee of the privy council to license the publication of books of importance, which the proprietor refuses to republish after the death of the author. Formerly, there was an obligation on publishers to deliver 11 copies of new works to certain universities and other public institutions; the obligation was now modified to 5 copies. The importation of English C. works printed in foreign countries is prohibited. C. is declared to be personal property, and may be bequeathed as such; in case of intestacy, it is to be subject to the same law of distribution as other personal or movable estate. The old obligation to register the C. of new works at Stationers' Hall was also modified; registration is no longer obligatory, but the practice of registering is still requisite for the sake of evidence in making good claims of copyright. Forms of registration and assignment are given by the act, but the use of them is not indispensable. The law of C. makes no distinction between British subjects and aliens. A foreigner may own the C. of a work printed first in Great Britain; thus an American author may secure the copyright of his book in Great Britain by first publication there. A British author cannot receive the same benefit in return, unless some portion of his work be written on American soil. Attempts are sometimes made, by issuing editions of a work simultaneously in the United States and England on the same day, to secure both British and American copyrights.

The ordinary process of stopping the issue of unauthorized reprints of C. works, which receive the name of pirated editions, consists, in the first place, in procuring an injunction from the court of chancery (if in Scotland, an interdict from the court of session), and of afterward raising an action of damages at common law. On all that concerns prosecution, as well as for many details respecting C. in its different varieties, see Godson and Burke's *Treatise on the Law of Copyright*.

Such is the history and general nature of the law of C. respecting books. The last-mentioned act, more explicit than previous statutes, remains the great charter on the subject. Unfortunately, it still leaves some defects which it would require a fresh law to remedy. The extension of C. for the assumed benefit of authors and their families, which

is the leading feature of the act, must be pronounced generally worthless. In the great majority of cases, authors assign the C. of their manuscripts for a consideration to publishers, who, looking for remuneration within a reasonable length of time, cannot, and as a rule do not, give a higher price for a 42 than for a 28 years' copyright. The tendency of Talfourd's act is still more than ever to lock up copyrights in the hands of the original assigns, where they are apt to become torpid and useless. A remedy for this evil has lately been found in a practice followed by certain acute and enterprising publishers of cheap reprints. Buying up the unexpired copyrights of books which have gone somewhat out of notice, they issue them in a form suitable to the nature of their business; and such reanimated productions constitute no small share of the cheap volumes that invite public attention—the author and his heirs being not in the slightest degree benefited by the process of literary resurrection.

Extracts, Abridgments, etc.—C. in a book entitles the proprietor to prevent extracts being made from it; but in practice, short extracts for the purpose of criticism, as in reviews, or for historical illustration, are tolerated. Unauthorized abridgments of C. works are deemed piracies, and their sale can be stopped. In such cases, however, the abridgment must show a clear adoption of the language or collocation of words of the original. It is now determined that no C. can be maintained in mere subject, information, or ideas. A writer may have put himself to great trouble to procure information on a particular subject; but the law does not recognize how information is procured. If a second writer use the information of the first (though that may have little regard to matters of fact), and make out of it a new work, there is no invasion of C. unless the words of the first have been at the same time taken. See Preface to Napier's *Memoirs of Dundee*.

Encyclopedias, Periodicals, etc.—The C. of articles contributed for and included in encyclopedias, magazines, reviews, or other periodical works, and of books published in a series, was regulated by the Act 5 and 6 Vict. c. 45. The C. of such articles, being paid for and assigned, belongs to the publisher, but he cannot publish them separately without the consent of the author. The author, however, may reserve the right of separate publication, and merely sell the right to use the article; but, should he republish any such article or articles, it may be done only in such manner as not to prejudice the right of the original publisher.

Dramatic Pieces and Musical Compositions.—These, with right of representation and performance are, by the act 5 and 6 Vict. c. 45, subject to the same C. as books. Strictly, a C. song cannot be publicly sung, or a tune publicly played, without the permission of the composer or his assigns. Since 1882 the author must print on the title page, that he reserves the right of performance. Verses must not be taken from a periodical or copyright work, and set to music, for sale, without permission. A C. work of fiction may be dramatized without permission.

Lectures and Public Addresses remain the C. of the person delivering them. By 5 and 6 William IV. c. 65, printers and publishers are liable to a penalty for printing and issuing spoken addresses without the consent of the author. It is understood that no one is at liberty to take down a sermon as delivered by a clergyman, and publish it without permission; the act, however (§ 5), makes some exceptions: protection is not extended 'to any lecture or lectures delivered in any university, or public school, or college, or in any public foundation, or by any individual in virtue of, or according to, any gift, endowment, or foundation.' Under this permissive clause, it appears that sermons delivered by clergymen of the established churches, in endowed places of public worship, are deemed public property.

Letters, and every kind of epistolary correspondence, are the property of the writer. The receiver of a letter may retain it for his own use, but, strictly, he cannot publish it without the permission of the sender or his heirs, neither can he sell it as a curiosity. The sale of letters of distinguished individuals is illegal, though ordinarily tolerated. See *Curtis* on the law of C. As to Scotland, see the case of the *Scotch Thistle* newspaper, in Irvine's report of the trial of Madeleine Smith.

Newspaper matter, when the newspaper in which it appears is registered under the copyright act only, is subject to the common law of C.; but practically, and for mutual convenience, the intelligence in one paper is freely copied by the more respectable class of papers with, and in the less respectable without, acknowledgment. The taking of leading articles in the same manner might doubtless be checked; as would also be the unauthorized adoption of existing newspaper titles.

Engravings, Maps, Charts.—C. in these is secured by several acts, more particularly the 17 Geo. III. c. 57. The term of C. is 28 years. Each engraving or map must have on it the date of publication and name of publisher. Those who infringe C., forfeit the plates on which the pirated engravings or maps were printed; they forfeit also every pirated sheet, and five shillings for every print undisposed of. There is no C. in subject. Any one may invent or delineate and sell pictures from subjects in C. books, without challenge. It is understood that in painting a portrait, C. remains with the artist, although he be paid for the picture, and the purchaser cannot take copies without permission or assignment. C. as to paintings, however, is ill defined and defective, and an improved law on the subject is said to be under consideration. See DESIGN, under which head is also noticed the C. of models, sculptures, casts, patterns of carpets and paperhangings, etc.

Copyright in the Colonies.—By the act 5 and 6 Vict. c. 45, the C. of books, etc., printed in the United Kingdom, is extended to all British colonies; and the act 8 and 9 Vict. c. 93, concerning the trade of the colonies, absolutely prohibited these dependencies from importing pirated editions of C. works. Practically, this last-recited act was

unavailing. Large quantities of cheap reprints of British C. books continued to be imported from the United States into the British American possessions. Remonstrances against these irregularities at length led to some special legislation. It was ordained by the act 10 and 11 Vict. c. 95, that the colonies might respectively enact a law to enable them to import pirated C. works, on the plan of exacting a custom-house duty on such works, the proceeds to be handed to the proprietors of the said copyrights. Colonial laws were accordingly enacted, in nearly all the British colonies except Australia. But the provisions were found quite inadequate. In 1874 the Dominion of Canada passed an act, confirmed by the imperial parliament 1875 (c. 53), for securing in Canada the rights of authors, and for prohibiting the importation into Canada of any work for which copyright under the colonial act had been secured. By this act, if there is copyright in the United Kingdom in a book, the author becomes entitled to copyright also in Canada, on condition that his work, whether literary, scientific, or artistic, be printed and published, or reprinted or republished, in Canada. A copyright for 28 years from the recording thereof is now secured in Canada to authors; and if the author, or his wife or child, is living at the end thereof, then for 14 years longer.

Copyright in Germany was first regulated as respects duration by the Confederation, a resolution of which, 1837, fixed the duration of property in literary productions and works of art at 10 years; and another resolution, 1845, extended it to the lifetime of the author, and for 30 years after his death. The laws regulating the contract of an author with his publisher varied in the different states. In Prussia, when an author assigned a C. to a publisher without any special stipulation the publisher was entitled to issue only one edition, the extent of which he might determine. But a distinction is made between reprints or new issues (*aufLAGen*) and new editions (*ausgaben*). In the case of the former, the publisher is left free, on condition that he shall pay to the author, should no agreement be come to between them, on the occasion of each new issue, half the sum which he paid him for the first. New editions, on the contrary, can be published by the first publisher only by entering into a new contract with the author, which must be given in writing. This privilege is limited to the author's life, though his children have a claim for a *honorarium* for each edition issued after his death. The rights of the publisher may be transferred, and those of the author descend to his heirs. When the rights which have been conveyed to the publisher terminate, the author becomes again the unlimited proprietor of the work. Copyright in Germany is now regulated by imperial legislation. The constitution of the new empire recognizes the protection of 'intellectual property,' as one of the matters to be dealt with by the imperial parliament. A literary treaty for six years was signed, 1883, between France and Germany.

Copyright in France exists in the author and in his widow

for life, in his children for 20 years, and in his other heirs or assignees for 10 years after his own death or that of his widow. In *Belgium* the same law prevails, with this exception, that the right, whether in children or in other representatives, extends to 20 years after death.

International Copyright is a mutual convention between two countries to protect each other's copyright, translations included. The United Kingdom made such arrangement with Spain, Austria, Belgium, Saxony, Prussia, France, Italy, etc.; but as yet (1888) has not concluded any with the United States, though several plans have been considered in both countries.

The late Right Hon. James Wilson contemplated a consolidation of the C. laws, and such a measure is certainly very desirable. Among improvements required may be cited the following: 1. An improved system of registration. As matters are now conducted at the Stationers' Hall, any person may make any entry he pleases, with very little check in case of false pretension. A reform in this particular should embrace a system of registration in Edinburgh and in Dublin, as well as in London, for the convenience of the three sections of the United Kingdom; the registrar of each section to get copies annually of the other registers for general inspection. 2. A clearer understanding of the posture of articles contributed to periodicals, encyclopedias, etc. It would probably answer the main purposes of justice, if the proprietor of the work contributed to were held as having, by his stipulated payment, acquired the C., unless where a special reservation was made. 3. A protection to publishers for literary services paid under a salary. It is clearly absurd to expect that each particular article, or, say, addition to a formerly existing book, written in these circumstances, should be matter of formal assignment; and in practice no such assignment takes place. Yet, with authors disposed to take advantages, there may be cases in which the honorable understanding as to the sufficiency of salary may be no protection to the publisher from at least a harassing litigation. 4. A remedy for the great mistake made in Talfourd's act, in the extension of copyright—namely, by making this extension only to the representatives of authors who had not parted with their copyrights. See also *Copyright, National and International* (1879); Jerrold's *Handbook of English and Foreign Copyright* (1881); Scrutton's *Laws of Copyright* (1883). The copyright of designs is covered by the new act of 1883 on Patents (q.v.).

In the United States there has been a more or less persistent movement to secure an equitable plan of international C., particularly with Great Britain, for more than half a century. The subject has engaged the attention of noted authors and publishers and received the consideration of law makers in both countries; and several times has seemed very near the point of settlement. It has been kept before the public by the agitation of the American C. Assoc., the American Committee of the International C. Assoc., and the American C. League, and bills providing a variety of plans

have been introduced in congress 1837, 58, 68, 71, 72, 84, 85, 86, 90. In 1833, Lord Palmerston solicited the co-operation of the United States govt. in framing a C. treaty; 1853 Edward Everett negotiated one with Great Britain, which was killed by the senate in committee of the whole; and 1870 Lord Clarendon proposed one similar to that between Great Britain and several other European nations, which led to the introduction of a bill in congress, frequent conferences between authors, publishers, and members of the committee to whom the bill was referred, and a report by the committee, 1873, that 'any project for an international C. will be found upon mature deliberation to be inexpedient.' In 1880, a modification of the proposed Clarendon treaty was submitted by the United States to Great Britain. It excited as much opposition in that country as the original proposition did in this; but the British minister to the United States was instructed to proceed with the consideration of the treaty conditionally. No practical advance was made. Early in 1884 the American C. League attempted to have this treaty completed, and a bill pending in the house of representatives was to meet the views of the league, and received the support of the judiciary committee, but congress adjourned without taking action on it. The same bill was re-introduced in the house 1885, Jan. 5, and a different one in the senate Jan. 6; but no action was taken on either. In 1885, Dec., the senate bill was re-introduced by its author, Senator Hawley, and 1886, Jan., Senator Chace introduced another. Both were referred to the committee on patents. The Chace bill met with the greater favor in the committee as well as in the senate, where it was adopted 1888, May 9. After numerous amendments this bill passed both houses of congress, and was approved by the pres. 1891, Mar. 3. It now stands in the form of amendments to sections 4952, 54, 56, 58, 59, 63, 64, 65, 67, and 71 of the *U. S. Revised Statutes*. The bill struck out of the old C. law the words 'Any citizen of the United States, or resident therein, who shall be,' and also the words 'and authors may reserve the right to dramatize or to translate their own works,' and inserted, in lieu of the latter, the words 'authors or their assigns shall have exclusive right to dramatize and translate any of their works for which copyright shall have been obtained under the laws of the United States.'

No person shall be entitled to a C. unless he shall, before publication in this or any foreign country, send to the librarian of congress a printed copy of the title of the book or other article, or a description of the painting, drawing, chromo, statue, statuary, or a model or design for a work of the fine arts, for which he desires a C., nor unless he shall also, not later than the day of publication thereof in this or any foreign country, deliver or send to the librarian of congress two copies of such book or dramatic composition printed from type set within the limits of the United States, or in case of engraved works, photographs, or other similar article, two copies; or in case of a painting, drawing, statue, statuary, model or design for a work of the fine arts, a

COQUEREL--COQUET.

photograph of the same. During the existence of such C. the importation into the United States of any book or other article so copyrighted shall be prohibited, except in the cases specified in section 2505 of the *U. S. Revised Statutes*, and except in the cases of persons purchasing for use and not for sale.

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COQUEREL, *kôk-rêl'*, ATHANASE LAURENT CHARLES: 1795-1868, Jan. 20; b. Paris: eloquent minister of the Reformed Church in Paris. He studied theology at Montauban. Afterward, he became minister of the French church in Amsterdam, where he remained 12 years. In 1830, Cuvier induced him to return to Paris, where, till his death, he held the office of a preacher of the gospel. In 1848, he was elected a delegate to the national assembly by the department of the Seine, but he did not appear to much advantage either in this assembly or in the legislative assembly, of which he was also a member. He wrote many works on religious subjects, history, and literature, all of which are marked by an earnest and liberal spirit. By the more rigidly orthodox of his co-religionists, C.'s doctrinal views were regarded as unsound.

His son, ATHANASE JOSUE LAURENT, also a Protestant pastor of liberal tendencies, died 1875.

COQUET, v. *kô-kêt'* [F. *coqueter*, to strut or swagger, as a cock among hens—from *coq*, a cock: comp. Gael. *gogaid*, a vain silly woman—from *gog*, nodding to attract attention—

COQUETTA BARK—COR.

lit., a little cock]: to attempt to attract admiration; to trifle in love in order to gratify vanity. COQUETTING, imp. COQUETTED, pp. COQUETRY, n. *kō'kēt-rī*, attempts to attract notice or love from vanity. COQUETTE, n. *kō-kēt'* [F. *coquette*, a prattling or proud gossip]: a vain trifling girl who endeavors to attract admiration and love from vanity, and then rejects her lover for another; a jilt. COQUET'TISH, a. *-tish*, invitingly pretty; affecting the manner of a coquette. COQUET'TISHLY, ad. *-lī*.

COQUETTA BARK, n. *kō-kēt'ta bârk*: fibrous Carthagen bark, from *Cinchona lancifolia*, which grows in New Granada. It contains quinine, much quinidine, also some cinchonine.

COQUILLA NUT, *kō-kwī'lla nūt*: fruit of a palm, *Attalea funifera*: see ATTALEA. It now forms an article of export from S. America, being used in the manufacture of buttons and in turnery, as for knobs of walking-sticks, umbrella handles, handles of bell-pulls, etc. It is very hard, susceptible of a good polish, and beautifully mottled with dark and light-brown. The demand for coquilla nuts seems likely to increase; and probably the fruits of some other palms may be found suitable for similar purposes.

COQUIMBO, *kō-kēm'bō*: department in Chili; lat. from 25° 30' to 31° s., and long. from 69° to 72° w., occupying the entire breadth of the country between Aconcagua on the s. and Atacama on the north. With the exception of the immediate banks of streams, it is parched and barren, being valuable chiefly for its mines of silver and copper. Physically, the region here and there presents galleries of shingle-terraces with organic remains: see CHILI. Pop. (1881) 165,474; (1891) 189,524; (1895) 160,898.

COQUIMBO: city of Chili, cap. of the dept. of C. It is called also La Serena. It stands near the mouth of the C. river. The *port* of C. is on the bay, several miles away, and is one of the best harbors in Chili. In addition to copper and silver, it largely exports chinchilla skins. Pop. of C. (1895) 15,712.

COQUIMBO RIVER: river in Chili, rising in the Andes, entering the Pacific about lat. 29° 55' s., and long. 71° 25' west. At its mouth is one of the best harbors in the republic.

COQUIMBO OWL, or BURROWING OWL: see OWL.

COQUITO, *kō'ke-to* (*Jubaea spectabilis*): beautiful Chilean palm, of the same tribe with the cocoa-nut, rising with a naked stem to the height of 40 or 50 ft., and bearing a crown of wide-spreading pinnated leaves. By cutting off the crown, the sap is obtained in great quantity, continuing to flow for months; and when boiled down to the consistence of treacle, becomes a very sweet syrup, and forms, under the name of Palm-honey (*miel de palma*), an article of great importance in the domestic economy of the Chileans.

COR, *kōr* [L.]: a prefix, together; another spelling of CON, which see.

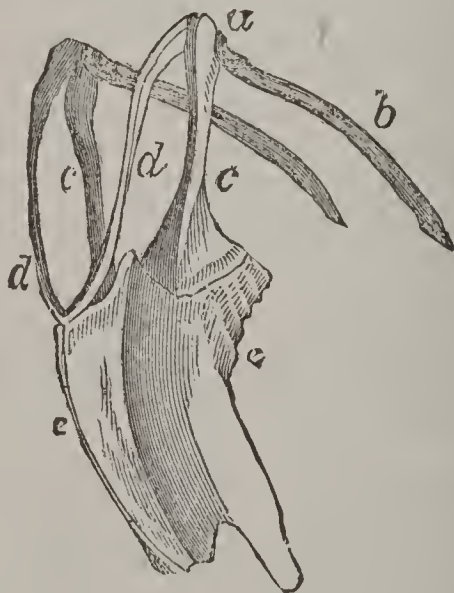
CORA—CORACOID.

CORA, *kō'rā*, or **CORE**, *kō rā*, or **CORI**, *kō'rē*: town of s. Italy, 30 m. s.e. of Rome; most picturesquely situated on a commanding elevation in the midst of olive plantations, and crowned by the ruins of ancient temples. Two torrents dashing through deep ravines on the e. and w. side of the hill add romance to the situation. The town, divided into an upper and lower part by an olive-grove, is surrounded by walls, chiefly of 15th c. date, and is on the whole well built, clean, and healthy, with a population of 6,000. C. preserves the name, and occupies the site, of one of the oldest cities in Italy. Virgil and Diodorus make it an Alban colony, while Pliny ascribes to it a Pelasgic origin. In any case, it was early one of the most important cities of Latium. The ancient remains—including those of the old walls, a Doric temple called the *Temple of Hercules*, a Corinthian temple to Castor and Pollux, and a fine bridge—are among the most interesting in Italy.

CORA'CIAS: see **ROLLER**.

CORACLE, n. *kōr'ä-kl* [W. *cwrwgl*—from *corwg*, a trunk: Gael. *curachan*, a coracle—from *curach*, a boat of wicker-work]: a fishing-boat among the anc. inhabitants of Wales and Scotland, made of a frame of wicker-work covered with the skin of animals; a boat made by covering a frame of wicker or basket work with leather or oil-cloth, used in Wales and Ireland: see **CURRACH**.

CORACOID, a. *kōr'ä-kōyd* [Gr. *korax*, a crow; *eidos*, shape]: resembling a crow's beak; in *anat.*, applied to a process of the shoulder-blade, which forms a separate bone in birds and reptiles. In the mammalian skeleton, the



Sternum of Barn Owl:

a, the glenoid or shoulder joint cavity; *b*, the scapula; *c, c*, the coracoid bones, articulating at one end with the sternum or breast-bone *e*, and at the other with the scapula *b*, with the clavicle *d*, and with the humerus or great bone of the wing. The union of the two clavicles *d, d*, to form the furcula or merry-thought bone, is well shown in this figure.

scapula or blade-bone presents a projecting bony process termed the Coracoid Process, and from the idea that the bones of these parts in all birds, in saurian and chelonian

CORAIS—CORAL.

reptiles, and in the monotremata, correspond anatomically with the comparatively slightly developed coracoid process, they have received the name now universally assigned to them.

The uses of these bones are most obvious in birds. It is obviously necessary that the scapular arch should be very strong in birds, in order to form a solid resisting fulcrum to the powerful movements of the humerus and other wing-bones. The scapula (see *b* in the fig.) is a long, curved, compressed bone, extending along the back on each side of the dorsal vertebræ, imbedded in the muscles to which it gives attachment, while at its fixed extremity it assists in forming the cavity of the shoulder-joint (*a*). The coracoid bone (*c* in fig.) is the great support of the shoulder; for while at one extremity it sustains the wing, at the other it is firmly secured to the sternum by a broad and strong articulation; indeed, it forms the main resistance to the approximation of the humerus to the median plane, and retains it firmly in its lateral position. The scapula and coracoid bone are anchylosed (or united by osseous matter) at their point of union, thus forming collectively the structure popularly known as the side-bone. The clavicles, *d*, *d*, which are conjoined to form the furcula, combine to add to the stability of the whole apparatus.

CORAIS, *ko-ra'is*, ADAMANTIOS, called by the French CORAY, *ko-rā*: one of the most learned Hellenists of modern times, and a benefactor of his nation: 1748, Apr. 27—1833, Apr. 6; b. Smyrna. His father was a merchant, and he also engaged in mercantile pursuits; but having from earliest youth delighted in the study of ancient and modern languages, he relinquished business, and turned to literature. He fixed his residence in Paris, and there resided till his death. He published editions of many ancient Greek authors, adding notes and prolegomena, in which his patriotic zeal was often very strongly displayed. He translated into modern Greek the work of Beccaria, *Dei Delitti e delle Pene*; and by various translations and other publications, influenced and awakened the minds of his countrymen. When the Grecian war of independence began, C. was too aged to take any active part in it, but by his writings he showed his sympathy with the cause of his country.

CORAL, n. *kör'äl* [F. *corail*; OF. *coral*, coral—from L. *corāliūm*; Gr. *korallion*, coral: It. *corallo*]: the hard limy substance secreted by the coral zoophyte, and occurring most abundantly in the warmer latitudes of the ocean: ADJ. pertaining to. COR'ALLA'CEOUS, a. *-lā'shūs*, or COR'ALLINE, a. *-līn*, of or like coral. COR'ALLINE, n. a coral-like substance; a kind of algæ hardened by calcareous deposits resembling coral-moss. COR'ALLINE, n. *-līn*, a brilliant red dye, called also *aurin* or *rosolic acid*. COR'ALLIF'EROUS, a. *-līf'ēr-ūs* [L. *ferō*, I bear]: containing coral. CORAL'LIFORM, a. [L. *forma*, a shape]: resembling coral. COR'ALLOID, a. *-loyd*, or COR'ALLOIDAL, a. *-loy'dāl* [Gr. *korallion*, and *eidos*, a form]: branching like coral; having the appearance or struct-

CORAL.

ure of coral. CORAL-RAG, in *geol.*, the upper member of the Oxford or Middle Oolite (q.v.), consisting of continuous beds of petrified corals of very variable thickness, interstratified with beds of oolitic limestone. These strata occur in England in the n. districts of Berkshire and Wilts, and again, with the same characteristics, in Yorkshire, while in the intermediate district the whole group seems to disappear. It attains to a maximum thickness of 190 ft. The corals retain the position in which they grew at the bottom of the sea; they sometimes form masses 15 ft. thick. The characteristic genera are *Isastræa*, *Thamnastræa*, and *Thecosmilia*. With them are associated the remains of mollusca and echinodermata. CORAL-RÉEF, also CORAL-ISLAND, a chain or ridges of coral in various parts of the ocean, at or above the surface, forming an island. CORALLINE CRAG, in *geol.*, the white crag, or the lowest member of the Pliocene.

CORAL: calcareous secretion or deposit of the Coralligena, a sub-class of Actinozoa (see ZOOLOGY: POLYPT). This deposit assumes very various and often beautiful forms, according to the differing gemmation of the polyps of the different species. The coral-producing zoophytes are compound animals, which increase by gemmation, young polyp buds springing from the original polyp, sometimes indifferently from any part of its surface, sometimes only from its upper circumference, or from its base, and not separating from it, but remaining in the same spot, even when the original or parent polyp has ceased to exist, and producing buds in their turn. The calcareous deposition begins when the zoophyte is still a simple polyp—owing its existence to oviparous reproduction—adhering to a rock or other substance, to which the calcareous matter becomes affixed, and on which the C. grows or is built up, the hard deposits of former generations forming the base to which those of their progeny are attached. One layer of the calcareous polyp cells of which the greater number of corals are composed, occasionally surrounds another like the concentric circles in the wood of exogenous trees; one layer is sometimes deposited above another; the whole structure sometimes branches like a shrub, spreads like a fan, or assumes the form of a cup, a flower, or a mushroom. Under the common name C. are included many species, also designated madrepores (q.v.), and some have received other names derived from peculiarities of their form and appearance, as Brainstone C. (q.v.), etc. In the greater number of kinds, besides the calcareous plates which form and separate the polyp cells, and which are variously arranged according to the form and structure of the polyps themselves, there is a more solid internal or central calcareous part, formed by the additional deposition of calcareous matter at the bottom of each polyp cell, or from the common living part in which the polyps are united. The calcareous framework is further strengthened by a greater or less mixture of horny animal matter with the pure calcareous substance. This calcareous framework is analogous to the cartilaginous, leathery, or fibrous framework of many other compound zoophytes, as *Alcyonium* (q.v.), or

CORAL FLOWER.

Dead Man's Fingers. The polyps of the common RED C. (*Corallium rubrum*) indeed very much resemble



Coral, showing the Polyps
(*Corallium rubrum*).

those of *Alcyonium*; but the central axis in this and other corals forming the family *Corallidæ* is quite solid, being produced in concentric layers by the living gelatinous substance, which envelops it like the bark of a tree, and from which the polyps project like buds, or, when their tentacula are expanded, like little flowers. In the *Madreporidæ*, the general structure more nearly resembles that of *Alcyonium*. Many of them, however, have the whole calcareous framework covered, as in the *Corallidæ*, by a gelatinous living substance which unites all the polyps. The whole living part soon decomposes and disappears, when the C. is taken out of the water; in some species, almost immediately flowing from the calcareous part as a watery slime.

Corals abound chiefly in the seas of the warmer latitudes, where they form extensive banks at no very great depth, and their various and bright colors present the appearance of submarine flower-gardens. Numerous species are usually combined in the formation of a single C. reef, and respectively occupy different places in it. Corals of the branching genus *Porites* usually occupy the exposed edge of the reef, and with them is associated *Millepora complanata*, a species which forms thick vertical plates, united at different angles by their edges, the outer plates only being tenanted by living polyps. In the stiller water within are many more delicate kinds, and in the quiet sheltered depths, brainstone corals and flower-like forms appear.

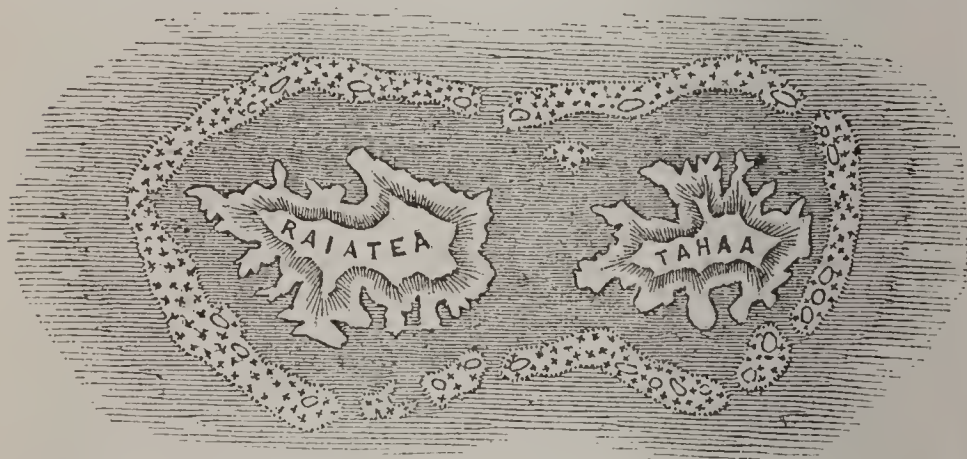
The C. of commerce, or common RED C.—so much admired for its fine color, susceptible of a high polish, and much used for ornamental purposes—is obtained chiefly from the Mediterranean, in some parts of which extensive ‘coral fisheries’ are carried on. It is brought up from considerable depths by means of a sort of grappling apparatus dragged after a boat or boats; the pieces being broken from the bottom by beams of wood which are sunk by weights, and then entangled among hemp. Red C. has a shrub-like branching form, and grows to the height of about one ft., with a thickness like that of the little-finger. Much of the C. of the Mediterranean is exported to India, but Red C. is obtained also in the Red Sea, the Persian Gulf, etc.—BLACK C (*Antipathes*), the axis of which is rendered still more solid by the greater mixture of horny with calcareous matter, is still more highly prized.—C. was known to the ancients, and was used for ornamental purposes by the Gauls.

COR’AL FLOWER, or COR’AL TREE (*Erythrina*) genus

CORAL ISLANDS.

of trees and shrubs, of the nat. ord. *Leguminosæ*, sub-order *Papilionaceæ*; of which the species, natives of tropical and sub-tropical regions, generally produce long spikes of beautiful flowers of a rich dull crimson or a scarlet color, resembling coral. The leaves have three leaflets. The *standard* of the flower is remarkably long. The C. F. of Brazil (*E. crista galli*) is common in British green-houses. The Indian C. F. (*E. Indica*) is used in the E. Indies for hedges, its stem being covered with thorns. The wood is so light and spongy that it is used for the largest sizes of corks.—*Jatropha multifida*, a very different plant, of the nat. ord. *Euphorbiaceæ*, has also acquired the name of Coral Tree.

CORAL ISLANDS: ridges of coral at and above the surface of the ocean. They are most abundant in the tropical and sub-tropical parts of the Pacific Ocean. The formation of coral goes on, in favorable circumstances, with wonderful rapidity, for masses of coral have been found to increase in height several ft. in a few months; and a channel cut in the reef surrounding a coral island, to permit the passage of a schooner, has been choked up with coral in ten years. It was at one time supposed that the coral polyps began their labors at the bottom of the ocean, and reared their pile from its greatest depths; but it has been ascertained that none of them live at depths of more than 20 or 30 fathoms, and most of them are inhabitants of much shallower water. It appears, therefore, that the foundation of their still marvellous structures must be on



rocks that do not reach the surface, probably in most cases volcanic rocks similar to those which, being further upheaved, form the volcanic and often mountainous islands of Polynesia. Around these volcanic islands, which—although some of them are the largest islands of the Pacific Ocean—are far fewer in number than its C. I., a fringing reef of coral is often found immediately attached to the land; while in many other cases, the reef surrounds the island, the intervening space—of irregular, but nowhere of great width—forming a lagoon or channel of still water, protected by the reef from winds and waves. According to a theory proposed by Darwin (but disputed by Semper and Murray), this latter kind of reef is formed from a reef of the former or merely fringing kind, by the gradual sub-

sidence of the rocky basis carrying down the fringe of coral to a greater depth; while the greatest activity of life is shown by polyps of the kinds most productive of large masses of coral in the outer parts most exposed to the waves. In this manner also Darwin accounts for the formation of true C. I., or *atolls*, which consist merely of a narrow reef of coral surrounding a central lagoon; and very often of a narrow reef—perhaps half a mile in breadth—clothed with luxuriant vegetation, bordered by a narrow beach of snowy whiteness, and forming an arc, the convexity of which is toward the prevailing wind, while a straight line of reef not generally rising above the reach of the tide, forms the chord of the arc. There is generally a navigable passage through the reef into the inclosed lagoon, the waters of which are still and beautifully transparent, and the depth of water close to the precipitous sides of the reef is almost always very great. The passages through the reefs surrounding the larger volcanic islands are often opposite the mouths of streams; but even where this is not the case, there is a strong current in these channels from the flux and reflux of the tides. Islets bearing a few cocoa-nut trees often appear at intervals in the line of a low coral reef, and generally mark the sides of passages through it. When a reef has reached the surface of the water, sand, shells, fragments of coral, and other substances, begin to accumulate, and cocoa-nut trees often grow where the waves still wash their roots. Further accumulations from the ocean, with decayed leaves, stems, etc., gradually convert the reef into fertile land. Many C. I., of considerable extent and population, are nowhere more than a few feet above the level of the sea. Sometimes a volcanic upheaval seems to have taken place after the coral was formed, and this is supposed to have been the origin of the islands—comparatively few in number—called *Crystal Islands*, composed of coral rock, more or less modified by the action of air, water, and other agents. Islands of this class sometimes rise to an elevation of 500 ft., and often exhibit precipitous cliffs, and contain extensive caverns. They do not exhibit, however, the picturesque beauty of the volcanic islands, nor the soft and gentle loveliness which often characterizes the true C. I.

Coral reefs sometimes include within their circuit more islands than one (as in cut). Reefs also sometimes extend to a great length in a straight line, generally parallel to a coast. There is such a reef on the e. coast of Australia, extending not less than 350 m., without being broken by a channel. For the interesting theory of Mr. Murray, opposed to Darwin's, and founded on the *Challenger* observations, see a paper read by him in the Royal Soc. of Edinburgh in 1880: see also POLYNESIA.

COR'ALLINE (*Corallina* and *Corallinaceæ*): genus and family of marine *Algae*, of the sub order *Ceramiaceæ*, remarkable for rigidity, which is mostly owing to a calcareous incrustation. When the calcareous matter is removed by a weak acid, the resemblance to other *Ceramiaceæ* becomes very apparent. The common C. (*C. officinalis*), extremely

CORALLUM—CORANACH.

abundant on the British coasts, at first appears as a thin, round, shelly, purplish patch, on a smooth rock the shell of a mollusk, or the frond of a sea-weed. It gradually enlarges, and usually sends up a frond of jointed branching filaments, in a bushy tuft, an object of great beauty in the rock-pools. Although, as its name imports, this C. was formerly *officinal*, it has no medicinal virtues. Some of the corallines expand into leafy lobes, usually fan-shaped. Corallines are most abundant and beautiful in tropical seas.

The name C. is often popularly given to zoophytes of the class *Anthozoa*, and genera *Sertularia*, *Thuiarea*, *Antennularia*, *Plumularia*, *Laomedea*, *Campanularia*, etc., having branching polypidoms and hydraform polyps.

CORALLUM, n. *kõ-räl'lũm* [L. *corallũm*, red coral: It. *corallo*]: the hard structure deposited in, or by, the tissues of an actinozoon—commonly called *coral*. **CORALLITE**, n. *kõr'äl-lit* [Gr. *lithos*, a stone]: the corallum or coral secreted by an actinozoon, which consists of a single polyp; a mineral substance in the form of a coral. **COR'ALLIG'ENOUS**, a. *-lĩj'ẽ-nũs* [L. *geno*, I produce]: producing a corallum or coral.

COR'AL SEA (so called from the substance of its numerous reefs) that section of the Pacific between Australia on the w. and the New Hebrides on the east. Its general depth must be very considerable, for soundings of 2,150 fathoms, or nearly $2\frac{1}{2}$ m., have been obtained in lat. 13° s., and long. 162° east.

CORAM, *ko'ram*, THOMAS: 1668–1751, Mar. 29; b. England: philanthropist. He followed the sea in early life, first as a common sailor, afterward as a capt. of a merchantman; removed to Taunton, Mass., and was there employed several years prior to 1703 in boat-building and farming; returned to England and applied himself to a number of charitable works, the most prominent of which was the establishment of a hospital for foundlings in London. This institution, erected in Holten Garden at his own expense, was opened 1740, Oct. 17. He was subsequently engaged in aiding English settlements in Nova Scotia and the state of Ga.; secured an act of parliament providing a bounty on naval stores of American production, and in his last days formulated a scheme for the education of Indian children. He spent all his fortune in benevolence, and was sustained in his old age by a popular subscription annuity.

CORANACH, n. *kõr'ã-nãch*, or **COR'ONACH**, n. *-õ-nãch* [Gael. and Ir. *coronach*—from *cron*, time: comp. Gr. *chrõnos*, time (see **CROON**)]: a funeral dirge, formerly in use among the Irish and Scottish Celts. The word, spelt also *Cronach*, is by some thought to be derived from the Gaelic *cornh-rànaich*, a crying together. It sometimes denotes a sort of war-cry. 'The cries (coranich) are called by the Irish the *Ulagohne* and *Hululu*, two words extremely expressive of the sound uttered on funereal occasions; and being of Celtic stock, etymologists would swear to be the origin of the *ololugon* of the Greeks, and *ululatus* of the Latins.'—Pennant's *Tour*.

The C. seems identical with the Irish *caóine*, generally

written and pronounced *keen*, a dirge for the dead, 'according to certain loud and mournful notes and verses,' wherein the pedigree, property, the good and great deeds of the deceased, and the manner of his death are recounted, in order to excite sorrow or revenge in the hearers, and to show them the loss they have sustained.

The word, in one or other of its forms, occurs in the writings of many of the ancient Scottish authors:

'Cryand for you the cairfull corrinnoch.'

Sir D. Lindsay.

'Cryand the corynoch on hie.'

Battle of Harlaw.

'Be he the correnoch had done shout.'

Dunbar.

The C. has long since fallen into disuse among the Highlanders. The funeral lament performed on the bagpipes, which may be considered as an instrumental C., lingered on till the latter half of the 18th century.

For specimens of the C., see Sir Walter Scott's *Lady of the Lake*, and accompanying notes; Crofton Croker's *Researches in the South of Ireland*; and *Blackwood's Magazine*, vols. xiii. and xxiii.

COR ANGLAIS, *kawr ang-glā'*: wind-instrument of the reed species, the body of which is bent in the form of part of a circle. It is just a large oboe, and played on by oboe-players. Its compass is from F, fourth line in the bass, to B flat above the treble staff. Music for this instrument is written a fifth above the real tones.

CORATO, *kō-rā' tō*: large town in S. Italy, 25 m. w. of Bari; on a fertile plain. It is an ugly, dirty town, with a fine church. Pop. (1881), 30,428.

CORAY: see CORAIS, ADAMANTIOS.

CORB, n. *korb* [L. *corbis*, a basket]: a basket used for raising coal in collieries.

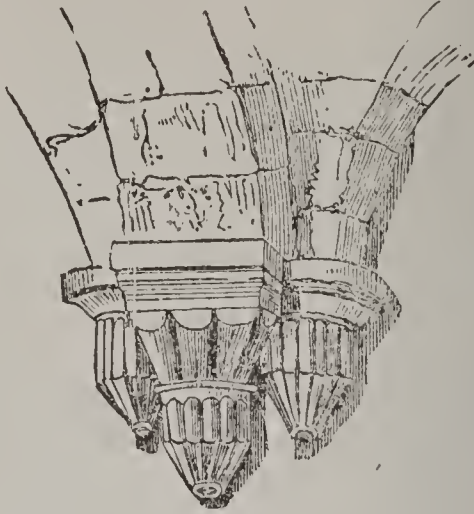
CORBAN, n. *kör'bān* [Heb. *korban*; Ar. *qurban*, offering sacrifice]: among the *anc. Jews*, a living offering or sacrifice; in later times, an offering of any kind; an alms-basket; a gift; an alms.

CORBEIL, n. *kör'běl* [F. *corbeille*, a little basket—from mid. L. *corbicŭla*—from L. *corbŭla*, a little basket: It. *corbello*]: a little basket filled with earth, used in sieges; sculpture-work representing a basket with flowers and fruit.

CORBEL and CORBEIL, n. *kör'běl* [OF. *corbel*, a little basket—from mid. L. *corbella*—from L. *corbis*, a basket (see CORBEIL)]: a piece of stone, wood, or iron projecting from a wall for giving support to any mass, sometimes carved as a head or in the form of a basket; a niche in a wall for an image or statue; the base of a Corinthian column, so called from its resemblance to a basket: V. to support on corbels; to furnish with corbels. COR'BELLING, imp. COR'BELLED, pp. *-bēld*.—C., in *architecture*, adhering originally to its etymological meaning, signified an ornament in the form of a basket, like those sometimes set on the heads of caryatides. In Gothic architecture, to which it is

CORBIE-STEPS.

now almost peculiar, it is applied to any kind of ornamented projection used for supporting pillars or other superincumbent weights. Here also its form probably



Corbel:
Kirkstall Abbey.

was at first that of a basket projecting from the wall, in which the end of the pillar was placed, and on which it rested. Latterly, the more ordinary form was that of a head, with the face looking outwards or downwards. In



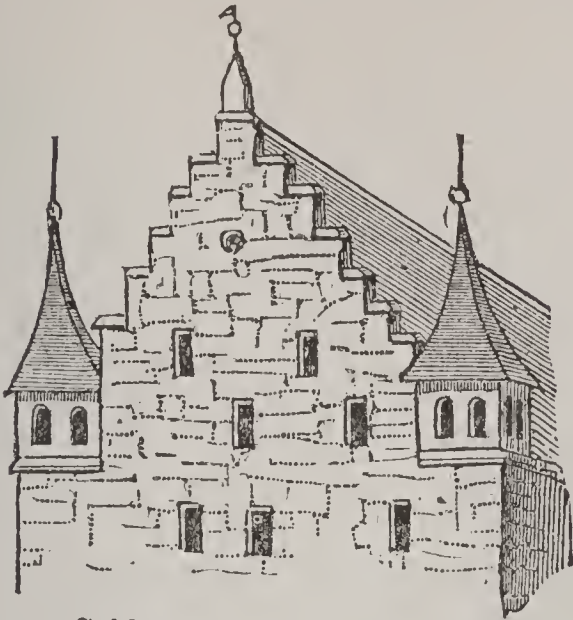
Corbel:
Duston, Northamptonshire.

this form it is found in all the styles. A recumbent animal, again, is sometimes placed under the pillar, and there are other forms in great variety. When any construction is carried out, so as to rest on corbels, and to project beyond the face of a wall, it is said to be *corbelled out*: see BRACKET: CANTILEVER: CONSOLE.

COR'BIE-STEPS, or Crow'-STEPS, in Architecture: the succession of steps with which the gables of old houses are commonly ornamented in Scotland. The fashion, like most other peculiarities of Scottish architecture, was no doubt borrowed, as was the term, from France. In the

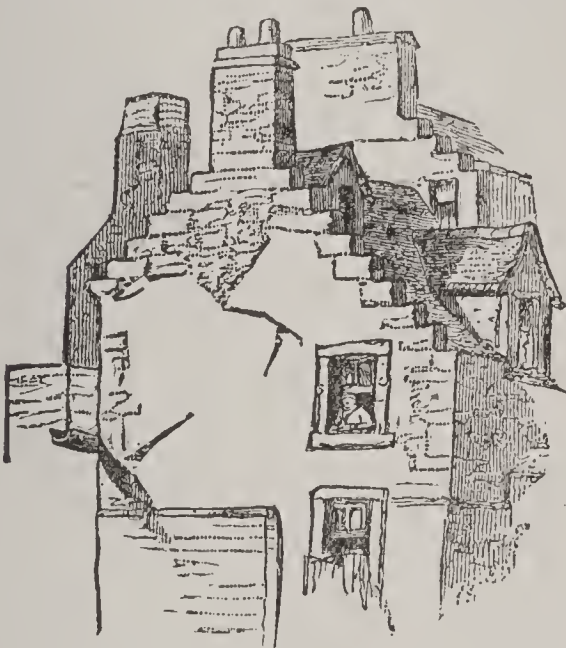
CORBIS—CORCHORUS.

domestic buildings of Edinburgh, it was most prevalent



Gable of house in Nuremberg.

1620-40. The notion, of course, was that the steps were for the use of the crows. This gable ornament is met with



Gable of house in the Castle Wynd of Edinburgh.

in Flanders, Holland, and all over Germany. Parker, in his *Glossary*, gives an illustration from Cologne.

CORBIS, n. *kor'bīs* [L. *corbis*, a basket]: genus of conchiferous mollusks, family *Lucinidae*.

CORBY, or **CORBIE**, n. *kōr'bī* [F. *corbeau*, a raven, a corbie—from L. *corvus*, a raven]: in *Scot.*, also in *heraldry*, a raven: see **CORBIE-STEPS**.

COR CAR'OLI: see **CONSTELLATION**.

CORCHORUS, *kawr'ko-rūs*: genus of plants of the nat. ord. *Tiliceæ*, having five sepals, five petals, numerous stamens, and a capsule; and containing a number of species, both shrubby and herbaceous, natives of warm parts

CORCORAN—CORD.

of the globe. *C. olitorius* is widely diffused in tropical countries, and is supposed to be a native of Asia, Africa, and America. It is an annual, with a smooth, more or less branching stem; varying in height from two to fourteen ft. or upward, according to soil and climate. It has smooth, stalked, alternate, oval, or ovatolanceolate leaves, and small yellow flowers, solitary or in pairs on foot-stalks. It is much used as a pot-herb, and is called JEWS' MAL-LOW, from being cultivated by Jews in Syria and other parts of the East. It is more valuable for the fibre of its inner bark, as is also *C. capsularis*, a species very similar, but distinguished by the want of transverse partitions in its capsule. Both are cultivated in India, yielding the greater part of the JUTE (q.v.) of commerce, and of the fibre employed in making *Gunny Bags* (q.v.). *C. capsularis*, extensively cultivated in China, is sometimes called CHINESE HEMP.

The Japanese shrub, now very common in Britain, and still generally known as *C. Japonicus*, was ranked in this genus when botanists were imperfectly acquainted with it, but belongs to the genus *Kerria*, of the nat. ord. *Rosaceæ*.

CORCORAN, *kor'ko-ran*, WILLIAM WILSON: 1798, Dec. 27—1888, Feb. 24; b. Georgetown, D. C.: banker and philanthropist. He was educated in private schools and in Georgetown College; became associated with two brothers in a combination of the dry-goods trade and the wholesale auction and commission business 1815; was prosperous till the stringency of 1823 compelled suspension; had charge of the real estate of the U. S. Bank and the Bank of Columbia in the Dist., 1828–36, and established himself as a banker in Washington 1837. In 1840, he took George W. Riggs into partnership. During the Mexican war, he took \$12,000,000 of the 6 per cent. loan issued by the U. S. govt., and successfully negotiated their sale in London. His commissions were the basis of his subsequent great wealth. In 1854, he retired from the banking business, and spent the remainder of his life in caring for numerous financial interests and in works of charity and public benefaction. He bought and presented to his native city the beautiful cemetery of Oak Hill 1847; built, furnished, endowed, and presented the now famous gallery of art bearing his name to the city of Washington 1857; founded there, in memory of his wife and daughter, the Louise Home for Indigent Women 1870; had the remains of John Howard Payne, author of 'Home, Sweet Home,' brought from Tunis and re-interred in Washington, and erected a suitable monument over them; and spent large sums in a variety of minor good deeds. It is believed that his public benefactions and private charities amounted to upward of \$5,000,000.

CORCULE, n. *kör'kül*, or COR'CULE, *kor'kl* [*L. corculum*, a dim. from *cor*, the heart]: in *bot.*, the heart of a seed, or the embryo.

CORCYRA: see CORFU.

CORD, n. *kawrd* [*F. corde*, a cord—from mid. *L. corda*,

CORDATE—CORDELIER.

a cord—from L. *chorda*; Gr. *chordē*, a string, gut: It. *corda*]: a string or small rope having the strands or plies well twisted; a quantity of wood formerly measured by a cord; that by which persons are caught, held, or drawn; a musical string: V. to bind; to fasten with cords or rope. CORDING, imp. *kõr'dĩng*. COR'DED, pp.: ADJ. made of cords. COR'DAGE, n. *-aāj* [F.]: cord and ropes taken together; seaman's name for the running rigging of a ship, as distinguished from the standing rigging; name given also to the store of rope in reserve: see RIGGING: ROPE.

CORDATE, *kõr'dāt* [L. *cordātus*, having a heart—from *cor*, the heart]: in *bot.*, having the form of a heart; heart-shaped. COR'DATELY, ad. *-lĩ*.

CORDAY D'ARMANS, *kor-dũ' dār-mõng'*, MARIE ANNE CHARLOTTE, known as CHARLOTTE CORDAY: 1768–1793, July 17; b. St. Saturnin, dept. of Orne, France. Though descended from a noble family, she early imbibed revolutionary principles, but was horrified at the monstrosities of the Jacobins; and her hatred of their acts was intensified by converse with a party of proscribed Girondists, who had fled to Normandy. She resolved to rid her country of one of the principals of the Jacobin faction, and with that view travelled to Paris. Whether to slay Robespierre or Marat, was an open question with her; but while she was debating the matter with herself, a demand of the latter for one or two hundred thousand more victims for the guillotine, marked him out for her weapon. Twice she sought admission to Marat unsuccessfully, but on a third occasion (1793, July 13), was admitted on the plea that she had important news from Caen to communicate. She found Marat in his bath, who, to some statement she made, declared that the Girondists who had fled to Normandy, some of whom were her own friends, would be guillotined in a few days. She no longer hesitated, but plunged her dagger into the monster's heart, who expired with a single groan. She was at once arrested, and brought before the Revolutionary Tribunal, where she boldly avowed and justified her act. She was of course condemned to the guillotine, and the sentence was carried into effect four days after Marat's death. Her beauty added greatly to the interest which her sanguinary heroism inspired.

CORDELIER, n. *kõr'dě-lěr'* [F. *cordelier*—from L. *chorda*, a gut, a rope]: a Franciscan friar of the strictest branch, so called from wearing a girdle of knotted cord. At one period, the Cordeliers had no less than 284 convents for men and 123 for women.—During the Revolution, the name was applied to the members of a political club which assembled in the chapel of a Franciscan monastery, and exercised (chiefly in Paris, however) great influence on the progress of the revolution. This club, instituted 1790, had for leaders men of various opinions, including Danton, Hébert, Camille Desmoulins, and Marat. The Cordeliers were generally opposed to the Jacobins (q. v.); but it may be

CORD-GRASS—CORDILLERAS.

asserted that in these two clubs all the great popular movements of the revolution had their origin. In the session of the Cordeliers, 1793, May 22, the insurrection which marked the close of the Reign of Terror was plotted. While the club was at the height of its influence, Camille Desmoulins commenced to issue his popular journal, *Le Vieux Cordelier*. Soon after the fall of Danton, the C. club lost its influence, and was an insignificant affair when it was closed by the Convention.

CORD-GRASS (*Spartina*): genus of grasses having compound spikes, the spikelets arranged on one side; and having only one perfect floret, and very unequal glumes. One species, *S. stricta*, found in muddy salt-marshes on the e. and s.e. coasts of England, though remarkable for its extreme stiffness and rigidity of habit, is used for making ropes, on account of the toughness of its fibre.

CORDIACEÆ, *kawr-dĩ-ā'sē-ē*: natural order of exogenous plants, closely allied to *Boraginæ*, from which it differs chiefly in its drupaceous 4-8-celled fruit. It consists of trees with rough leaves, natives chiefly of the tropics, though some are found in cool parts of S. America. The fruits called Sebesten (q.v.), or Sebesten Plum, belong to this order, and to the genus *Cordia*; which contains also some valuable timber-trees, particularly the Spanish Elm, Prince Wood, or *Bois de Chypre* of the W. Indies (*C. Gerasacanthus*). It is a dark-brown wood, faintly striped, tough, elastic, and fine grained.

CORDIAL, a. *kõr'dĩ-āl* [F. *cordial*—from mid. L. *cordialis*—from L. *cor*, the heart]: proceeding from the heart; sincere; invigorating: N. anything that revives the spirits; any medicine that increases the strength or raises the spirits: a liquor containing an extract of some vegetable substance and some spirit, and sweetened. **COR'DIALLY**, ad. *-lĩ*, heartily; sincerely. **COR'DIAL'ITY**, n. *-ĩ-tĩ*, sincerity; freedom from hypocrisy; warmth of manner.—**SYN.** of 'cordial, a.': hearty; sincere; frank; candid; open; ingenuous; warm; heartfelt; affectionate; cheering.

CORDICEPS, or **CORDYCEPS**, n. *kor'dĩ-sěps* [L. *cor* (gen. *cordis*), the heart; *ceps*, heads, a contraction of *capites*, as *biceps* is of *bicipites* (?)]: genus of ascomycetous fungi (*Sphæriacei*). Some species grow upon decaying leaves and branches on plants affected by ergot, others on living insects. A wasp in the West Indies is thus attacked, and the caterpillar of a New Zealand Ghost-moth (*Hepialus*).

CORDIFORM, a. *kõr'dĩ-fawrm* [L. *cordem*, the heart; *forma*, a shape]: heart-shaped.

CORDILLERAS, *kawr-dĩ'ller-as* [so in England and the United States; Spanish *Cordille'ra*, chain]: in Spanish America, a chain of mountains. The C. of S. America are the Andes (q.v.). Those of Central America extend from the commencement of the Isthmus of Darien to the n. of Mexico and California, and s. of California, spread themselves, to speak generally, from sea to sea, presenting many diversities, and occupying the states of New Gra-

CORDON—CORDOVA.

nada, Costa Rica, Nicaragua, Honduras, San Salvador, Guatemala, the Mexican Confederation, and New Mexico. They gradually increase in elevation from the Isthmus of Panama, where at one point they are only 260 ft. high, until, in Mexico, they reach a height of more than 17,000 ft., and form magnificent plateaus.

CORDON, n. *kawr'dǒng* [Sp. and F. *cordon*—from L. *chorda*, a string or rope]: cords or strings with tassels as a mark or badge of honor; a band; a wreath; a row of jutting stones before a rampart; a series of military posts: in military operations, is a line of sentries within sight of one another, inclosing or guarding any particular space of ground, to prevent the passage of persons other than those belonging to the army.—A line of sentinels intended to guard against contagious diseases is called a *C. Sanitaire*.

CORDON BLEU, *kawr'dong blé*: knight of the ancient French order of the Holy Ghost, at one time the most aristocratic order in the kingdom, whose decoration was attached to a blue ribbon or baldric. The knights frequently met in club form, and were noted for their excellent dinners, whence the term came to be applied to a cook of superior skill.

CORDON GRAND, *kawr'dong grǒng*: term applied to a member of any grade of the French Legion of Honor, because the cross of the order is always suspended from a broad ribbon.

CORDOVA, *kǒr'do-vá*: province of Spain; on both sides of the Guadalquivir; 5,159 sq. m. It has railways connecting with the ports of Cadiz and Malaga. Pop. (1887) abt. 420,000. The Cap. is the city of Cordova. See ANDALUSIA.

COR'DOVA, or COR'DOBA: city of Spain, cap. of the province of C.; in the midst of olives and palm-trees on the Guadalquivir, here crossed by a stone bridge of 16 arches, constructed by the Moors; lat. 37° 52' N., long. 4° 49' W. Its old Moorish Walls and convent-crowned hill in the background give it quite an oriental aspect; but its beauty, like most oriental beauty, is merely external; inside, its streets are narrow, dark, and dirty, with a general appearance of decay. Many gardens are inclosed within the walls. Among the principal buildings is the cathedral, formerly a Mohammedan mosque, an immense structure dating from the 8th c., and generally regarded as the finest type of a Moslem temple in Europe. Internally, its columns, composed of various-colored marble, jasper, and porphyry, form a perfect grove, there being still some 850 remaining, though at one time there were about half as many more. The bishop's palace, an old residence of the Moorish kings now used as stables, and several of the churches and convents, are also noteworthy. C. was at one time celebrated for its manufacture of cordovan (q.v.), but that has now greatly declined. Its silversmiths and filigree workers have still a good reputation; and there are manufactures of paper, silken fabrics, hats, etc. Its inhabitants are proud, above even the pride of Spaniards. C. is a very ancient place, having been founded by the

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Romans as Corduba, B.C. 152. Cæsar, B.C. 45, put 22,000 of its inhabitants to death for having sided with Pompey. Taken by the Goths in the 6th c., it soon afterward fell into the hands of the Moors, and became the cap. of the Moorish empire in Spain. From the 9th c. to the 12th c., it was one of the greatest centres of commerce in the world, and is said to have contained a million inhabitants. It was taken by Ferdinand III. of Castile, 1236, and never afterward regained its prosperity. In modern times, C. was taken and plundered by the French under Dupont, 1808. C. is the birthplace of the two Senecas, the poet Lucan, and the astronomer Averroes. Pop. (1900) 54,694.

CORDOVA: state of the Argentine Republic, near its centre; abt. 54,000 sq. m.; populated chiefly in its w. section. Cattle, sheep, and goats are numerous; and the soil is much fitter for maize and fruits than for wheat. The surface is mostly mountainous; and the ranges, which here and there are 2,500 ft. above the sea, are interspersed with barren flats of stone and sand. Pop. (1900) 419,072.

COR'DOVA: capital of a state of the same name in the Argentine Republic (q.v.), on the Rio Primero, tributary of the Parana, near the centre of the state. It was founded 1573, and is an important commercial and ecclesiastical city. It has a railway to the port of Rosario on the Parana. Pop. (1901) 50,000.

CORDOVAN, n. *kõr'dõ-văn*, or **CORDWAIN**, *kõrd'wân* [OF. *cordouanier*, one who works with *cordovan* or *cordouan* leather—from the Sp. town *Cordova*, where first made by the Moors]: Spanish leather prepared from goat-skins. The best C. now comes from the Levant. It is used in bookbinding, and in the finer kinds of boots and shoes. **CORDWAINER**, n. *kõrd'wân-ér*, or **CORDINER**, n. *kõr'di nër*, a shoemaker.

CORDUROY, n. *kõr'dû-roy'* [F. *corde du roi*, cord of the king]: a thick cotton stuff corded or ribbed. **CORDUROY-ROAD**, a road formed of poles laid transversely and in contact. It is used as a mud bridge in swampy places.

CORDYLINE, n. *kor-dĩ-lĩ nē* [Gr. *kordulē*, a club or cudgel; suf. *inē*]: genus of *Liliaceæ*, tribe *Asparageæ*. *Cordyline Ti*, called also *Dracæna terminalis*, is eaten in the Sandwich Islands: see *Ti*.

CORDYLOPHORA, n. *kor-dĩ-lõf'ér-a* [Gr. *kordulē*, a club; *phoreō*, I bear]: genus of hydroid polyps, family *Clavidae*. *C. lacustris* is the only compound polyp known to occur in fresh water, being found in the dock of the Grand canal, Dublin, where the water is perfectly fresh.

CORE, n. *kõr* [L. *cor*, the heart: F. *cœur*; OF. *cor*, the heart]: the inner part or heart of anything, as of fruit; among *founders*, the centre part of a mold, meant to keep hollow any casting in metal. **CORED**, a. *kõrd*, in the *herring fishery*, applied to fish gutted, salted, and ready for drying.

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COREA, *kō-rē'a*, or KOREA (native name CH'AO-HSIEN, '*Morning Calm*,' hence the popular name, 'The Land of the Morning Calm'; also called 'The Hermit Kingdom'): peninsular kingdom on the e. coast of Asia, bounded e. by the sea of Japan, s. by the strait of C., which divides it from the Japanese island of Kiou-siou, w. by the Hoang-hai or Yellow Sea, which separates it from China, and n. by Mantchooria. It lies between 34° and 43° n. lat., and 124° and 132° e. long., has an extreme length, n and s. of 630 m., width varying from 100–200 m.; 90,000 sq. m. Pop., native statistics (1900) 5,608,151.

Surface.—In general it is mountainous. The Chang-peshan range, partly covered with snow, separates it from its extreme n. neighbor, and a second chain branching out from this extends s.s.e. as far as the strait of C. The country is further diversified by numerous smaller ranges, between which are inviting valleys. C. really has a complete water boundary, the two rivers which separate it from China and Russia taking their rise in the Dragon Lake, on Mount Whitehead, which lies on the northern boundary. On the eastern shores of C. the spurs of the mountain ranges reach down in many places to the sea, and are pierced by a few fine harbors open all the year. Off the s. and w. coast lies an archipelago of islands; and the harbors are only shallow and crooked inlets, frequently frozen in winter, and subject to tides varying from 25 to 40 feet. The largest of the islands off the coast is Quelpart, 50 m. s. of the peninsula, which is about 60 m. in circuit, and in the centre a peak rises more than 6,000 feet above the sea. C. is drained by numerous rivers, five of them navigable,—the Yalu-kiang, in the n; the Taidong or Pyong-yang and the Han-kiang, with its tributary the Im-jin-gang, which flow into the Yellow Sea; and the Nak-tong, which rises in the e. slopes of the main mountain chain, flows s., and falls into the strait at $34^{\circ} 50'$ n. lat. On only two of these, the Han and Nak-tong, is steamboat navigation attempted.

The climate is cold in the north; elsewhere it is like that in the n. part of Japan. Ice and snow are everywhere in winter. The rainfall is excessive.

Resources.—Owing to the extreme cold in the n. provinces, barley is the only grain cultivated with profit; but the valleys of the s.w. are very fertile and abundant, crops of wheat, rice, millet, cotton, hemp, the favorite ginseng, fruits, wild grapes, and tobacco are raised. The leading manufactures are silk, cotton goods, cotton paper, rice paper, grass cloth, firearms, and horse-hair caps. In minerals C. is quite rich, in gold, silver, copper, iron, and coal; but, excepting gold and silver, the mines are not largely worked. It is only within the last few years that the govt. has allowed any operations in the gold and silver mines, and even now washing is the main process. The principal gold mines opened thus far are in the province of Ham-kiang. Permission to engage in mining has to be obtained from the govt., and miners are obliged to pay a royalty to the govt. and the governor and magistrates annually.

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Bullion is sent to Seoul, China, Japan, and Siberia. In 1901 the imports were valued at about \$12,500,000, and the exports at \$700,000. For several years a British official has superintended Korean customs.

Political Divisions, Cities, etc.—C. is divided into 13 prov. There is a separate gov. for the capital. Each of nine treaty-ports, Chinnampo, Ping Yong, Fusan, Chemulpo, Songchin, Masampo, Mokpo, Kunsan, Wonsan, and Russo-Korean trading mart, Kyenheung, is under a supt. or *kamni*. These provinces are subdivided into 339 prefectures, including islands, and there are 30 districts independent of the jurisdiction of the provinces in which they are situated.—The chief city and capital is called by the natives King-ki-tao, and by the French and English, Seoul. It lies in a valley about 54 m. by water from the mouth of the Han, with which it is connected by a narrow canal 3 or 4 m. in length. Seoul was first made the capital five centuries ago by Ni Taijo, the founder of the reigning house, who built the stone wall over 20 ft. high by which the city was surrounded. The city has now outgrown its great wall, having a population within it of 200,000, with as many more in the suburbs. There is a Japanese settlement in the city numbering about 1,000, and a Chinese settlement equally as large, and about 100 Europeans and Americans. The other important cities are Ham-heng, Kieng-wen, and Mou-san, also walled, in the province of Ham-kiang; Pieng-iang in Ping an; Wen-tsiou in Kang-wen; Tai-kou in Kiung-sang; Hai-tsiou in Hoang-hai; and Kong-tsiou and Tien-tsiou in Tsien-la and Tsiong-tsieng.

There are three principal ports now open to foreign trade,—Fusan or Pusan in the s.e., Gensan or Wonsan on Broughton Bay, and Chemulpo on the estuary of the southern branch of the Han, 54 m. from Mapu, the landing place for Seoul. Chemulpo was formerly spoken of in the treaties as Jinsen or Inchiun, the name of the nearest magistracy. When opened in 1883 it was only a fishing hamlet of 15 Korean huts; 10 years later it had a foreign population of 2,500 Japanese, 600 Chinese, and over 20 Europeans. Besides these three the treaty of 1888 opened the town of Kong Chong in the n. to Russia.

Government.—The monarchy is a despotism, limited by the influence of privileged ranks and hereditary nobles. The present ruler is King Li Hsi, who succeeded Li Ping in 1864, at the age of 12. He is the 28th in succession since the founding of the present dynasty in 1392. From 1864 to 1873, when the king assumed full sovereignty, the royal authority was invested in a council of regency, Li Hsia Ying, the king's father, being practically the ruler. Formerly, the king was a vassal of the emperors of China and Japan, but of late years up to July 23, 1894, he recognized the former only as his superior, by whom his own election had to be ratified, and to whom he sent a pompous embassy with a costly tribute every fourth year. The queen is a member of the Ming family. Next to the king are three premiers, known as the admirable councilor, the

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councilor of the right, and the councilor of the left. Internal affairs are administered under the control of the king by the Nei Wu Fu, or home office, in the six departments of civil affairs, revenue, ceremonies, war, justice, and public works. Foreign affairs are conducted by the foreign office instituted in 1882 for international questions arising under the various treaties.

Finance and Commerce.—It is said that the govt. of Corea (virtually the king) is always financially embarrassed. The royal revenue is derived from six sources,—a land tax, paid principally in grain; a house tax; customs revenue which in 1892 were \$438,413; the proceeds of the ginseng monopoly which is farmed out to a close corporation known as the Chung In, which is said to pay the king from \$400,000 to \$500,000 yearly; the proceeds of other monopolies; and irregular taxation.—In 1893 the total value of merchandise imports at the three treaty ports was \$3,880,155, and the exports \$1,698,116. The imports were chiefly shirtings and muslins (valued at \$1,648,954), woolen goods and metals; and the chief exports, beans (\$628,324), cow-hides (\$274,682), and rice (\$367,165). The actual volume of trade, including non-treaty ports, was much greater. Internal transportation is still largely carried on by porters, oxen, and packhorses. The shipping is nearly all in Japanese hands, over 1,300 vessels entered and cleared from Korean ports in 1893. A telegraph line runs from Seoul n. to Shanghai, another to Fusan, and a third to Yuensan or Gensan.

Manners, Customs, etc.—The people of C. are of Mongolian stock, tall, but with less pronounced Mongolian characteristics than either the Chinese or Japanese. Their language belongs to the Turanian group, and has an alphabet of 14 consonants and 11 vowels; but Chinese has to a large extent superseded the native language in official documents and among the educated classes. Women are kept in seclusion among the upper classes, and their condition generally is very low.

Education.—Ostensibly, education has long been regarded as the road to official preferments, and the crude native system provided three degrees for students, the possession of which was held to determine the grade of office that they were competent to occupy; but, in reality, all the best offices were apportioned among the nobility without any question as to educational fitness. Between 1883 and 1886 a very promising innovation was made by introducing western educational methods under the direction of American teachers; but the influence as yet has not been great.

Religion.—Buddhism is said to have been introduced into C. in the 4th c., and became the state religion under the Korio dynasty, but under the present (Ni) dynasty, Confucianism was substituted for it and is to-day the established creed. Among the upper classes ancestor worship prevails. There are still a large number of Buddhist temples in C., particularly off the main roads in the mountain valleys. Astrologers and fortune-tellers also abound; and much respect is shown the blind from a belief that they are

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endowed with special prophetic aptitude. Christianity was introduced as early as 1600 by Japanese and Chinese converts. In 1864 a war of extirpation was waged against the native Christians, and by 1870, 8,000 were said to have lost their lives for their faith. In 1892 there were, all told, about 40 Protestant missionaries, representing American, English, Canadian, and Australian societies, and 20 Roman Catholic missionaries in C. Early in 1893 a politico-religious party calling itself the Tokaguto or Party of Oriental Learning, through its leaders presented a petition to the throne demanding the prohibition of all foreign religions and the expulsion of the merchants; but this uprising was suppressed by arrest of the ringleaders and the concentration of foreign men-of-war at Chemulpo.

History.—In certain respects, C. has the most interesting history of all civilized nations. Known for centuries as 'the hermit nation' for its extreme exclusiveness, it has been making rapid strides since 1880 toward the prosperity that distinguishes western peoples. This means more than can be understood readily. Walled up in their cities, the people lived by and for themselves. Europeans were not permitted to remain even a few days on any part of the coast, and commerce was confined by political events to China and Japan, and then was not allowed by sea. Tradition says that C. was civilized by the Chinese abt. B.C. 1120. The Koreans claim as their first king, Ki Tsze, who emigrated from China and founded a dynasty at Pyong-yang B.C. 1122. The first European to set foot in Corea was one Gregorio de Cespedes, a Portuguese Jesuit, who was sent over by Hideyoshi in 1594 as chaplain to his second expedition against Corea. In 1654 Hendrik Hamel, a Dutchman, supercargo of the ship *Sparrow-hawk*, with 35 others, was taken to Seoul from the island of Quelpart, where their vessel was wrecked the previous year. They were imprisoned in different parts of the country, and a few of the survivors escaped to Japan in 1666. Hamel's account of his experience was published at Rotterdam in 1668. C. became subject to Japan in 1692; but the people having requested aid from China, the emperor delivered them from Japanese rule 1698, and substituted his own dominion. Japanese traders established themselves at important points on the coast and carried on a limited commerce there, not being permitted to enter the interior, and receiving only such commodities as the people chose to bring them. The transformation of the kingdom dates from 1865, when a Russian squadron appeared off the coast, and the govt. was requested to grant permission for the Russians to establish a trading station. The regent was alarmed at the request; and, pending an answer, the Russian fleet withdrew, and orders were received from Peking almost simultaneously, that all foreigners should be put to death. The murder of French Cath. priests and their converts was avenged in 1866 by a French expedition which destroyed the forts at the mouth of Han-kiang river. In 1871, the United States sent a squadron under Admiral Rodgers to

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punish the people for the destruction of an American trading schooner (*Gen. Sherman*) and the murder of her crew, and to exact protection for American seamen on their coast. The fleet advanced up the Han-kiang and captured and destroyed several of the chief river fortifications. The 10 years' regency of the king's father expired 1873, when Li Hsi attained his majority. Hopes were then entertained of a milder treatment of the Christians in the country, but there were few who expected that the country would be opened to foreigners, except by force. In 1876, the Japanese, in consequence of an attack on some of their men on the island of Kang-hoa, sent an armed expedition to negotiate a treaty of peace with C., and through the assistance of China, the mission was successful without the use of force. Under this treaty, C. was to permit the residence of Japanese at three ports on her coast, and to allow the establishment of a legation at the capital, beside granting the right of trade between subjects of the two countries, subject to certain restrictions. Thus, for the first time in 3,000 years, C. admitted the right of free intercourse with foreigners on her own soil. The innovation led to a short revolution, 1882, in which the Japanese legation was sacked and several of its members killed, and which was suppressed by a Chinese force sent to the relief of the king. In the trade regulations of 1882 China's right as suzerain was recapitulated and accepted by Corea. At this time the king manifested his desire to establish friendly relations with the great nations of the world, by sending to their capitals an imposing embassy, the members of which were received by Pres. Arthur in the summer of 1883. A treaty with the U. S. was signed 1882, and in 1883 treaties were made with Germany and Great Britain; in 1884 with Russia and Italy; in 1886 with France; in 1888 a new treaty with Russia relating to overland trade; and in 1893 with Austria. In June, 1894, alarmed at a formidable peasant uprising in northern C., the govt. appealed to China; and early in the month an armed Chinese force, numbering about 2,000, was dispatched from Che-Foo to Asan, a port s.w. of Seoul. Looking to the protection of her commercial interests and the safety of Japanese residents and traders in C., the authorities of Tokio quickly followed by landing a force of 6,000 troops at Ninson on the western coast. On July 23, the Ming, or pro-Chinese faction in the Corean government, was overthrown and a treaty of alliance between Japan and Corea was signed at Seoul Aug. 26, the first article of which declared the object of the treaty to be to strengthen and perpetuate the independence of C. as an autonomous state, by compelling the Chinese forces to withdraw from C. At the conclusion of the war between Japan and China (1895), the latter relinquished her claims over C., which was then declared independent, and, 1897, Oct. 15, the king assumed the title of emperor.

COREGONUS, *kō-rĕg'on-ŭs*: genus of fishes of the family *Salmonidæ*, having the first dorsal fin further forward than the ventrals, and higher than it is long, the scales large, the teeth either minute or wanting. The species are

CORELLI—CORFU.

numerous, and some of them inhabit the sea, others fresh water. To this genus belong the gwyniad of the lakes of Wales and Cumberland, the powan of Loch Lomond, the pollan of the lakes of Ireland, etc. From their herring-like appearance, the gwyniad and powan are often called *Fresh-water Herring*. Some of the species found in the lakes and rivers of N. America are known also as *Herring Salmon*; but a more valuable species, regarded as one of the finest of all fish, is the WHITE FISH (*C. sapidus* or *albus*) of N. America. Other species are found in the rivers and lakes of Europe, even to the North Cape, in those of Siberia, etc.

CORELLI, *ko-rě'llě*, MARIE (name said to be a pseudonym): novelist: 1864— ———; b. London, Eng.; reputed daughter of Charles Mackay. Her first novel, *A Romance of Two Worlds* (1886), made her famous, and was quickly followed by *Vendetta!*, *A Life Lost Sight of*, and *Thelma: a Society Novel*. *The Sorrows of Satan* (1896) attacks the political, religious, and social conditions of the age.

CORENTYN, *kō-rěn-tīn'*: river of Guiana, S. America; rises in lat. 1° n., having its head-waters 25 m. to e. of those of the Essequibo. With a generally northerly course, it separates the Dutch and British portions of the country; and at its mouth, lat. 6° n. and long. 57° w., it forms an estuary 25 m. in width. It is navigable for boats about 150 m. upward, measured by its windings; and at a point still higher, it was found to be 900 yards across.

COREOP'SIS: herbaceous plant, of the nat. ord. *Compositæ*; having yellow flowers with a purple centre.

CORF, n. *kōrf* [Du t. *korf*; L. *corbis*, a basket]: in mining districts, a basket for carrying coals; a coal-measure: plu. **CORVES**, *kōrvz*.

CORFE CASTLE, *kawr'fī kās'l*: village in the middle of Purbeck isle or peninsula, in the south of Dorsetshire England, 24 m. s.s.e. of Dorchester. In the vicinity are stone and marble quarries, and clay-works for the potteries. A castle, giving its name to the village, stands on a neighboring hill. It seems to have been founded in the 10th c., and was long one of the strongest fortresses in the kingdom. Here King Edward the martyr was murdered by his step-mother, Elfrida, about 980, and King John, during his disputes with his barons, kept his regalia here for safety. Here also, 1642, Lady Banks defended the castle for six weeks against Charles I. It was dismantled by Fairfax 1645. Pop. of parish 2,000.

CORFU, *kawr-fō* or *kawr'fū*: most northerly of the Ionian Islands (q. v.); lat. 38° 40'—39° 40' n., long. 19° 10'—20° e. It has a length of about 38 m., breadth varying from 3 to 20 m.; 427 sq. m. Pop. (1896) 124,578. Like the rest of the Ionian Islands it is mountainous, and the mountains are generally naked and dry, the highest summit, Pandokrátora, being 2,997 ft. above the level of the sea. The valleys, however, are very fertile, and yield olive-oil, wine, honey, oranges, figs, etc. Salt also is produced. The climate is generally mild and healthful.

CORFU—CORIGLIANO.

The ancient name of the island of C. was *Corcyra*. It is said to have been occupied first by the Phæacians, and then by the Liburnians; but the accounts of it are somewhat mythical until its settlement by the Corinthians about B.C. 734, and through its commerce it soon acquired a considerable importance. It soon quarrelled with the mother-country, and after many vicissitudes of fortune, passed under the dominion of the Romans about B.C. 229.

CORFU: principal town of the island of C.; underwent great improvements during the British protectorate, and is copiously supplied with water. It is on an elevation, has some good streets and a fine esplanade. The town has considerable trade, is the seat of an abp. of the Greek Church, and of a Latin bishop. The principal institutions are the penitentiary, the lunatic asylum, the infirmary, foundling hospital, etc. The University, founded by Lord Guilford 1823, now represented by a lyceum, was suppressed when (1864) the Ionian Islands were incorporated with the kingdom of Greece. At the incorporation it was stipulated that Corfu and Paxo were to enjoy perpetual neutrality. The language spoken is considered the softest of the modern Greek dialects. Pop. abt. 17,000.

CORIACEOUS, a. *kō'ri-ā'shūs* [L. *corium*; Gr. *choriōn*, skin, hide: It. *corio*: F. *cuir*]: consisting of or resembling leather; tough. **CORIUM**, n. *kō'ri-ūm*, the true skin or dermis lying beneath the cuticle.

CORIANDER, n. *kōr'ī-ān'dēr* [F. *coriandre*—from L. *corian'drum*: It. *coriandro*], (*Coriandrum sativum*): annual plant of the nat. ord. *Umbelliferae*, with branching stem, 1–2 ft. high, the lower leaves bipinnate, the upper leaves more compound, and globose fruit. It is a native of the south of Europe and of the east, and has long been cultivated for its fruit, and has thus become naturalized in some parts of England, although its fruit (*C. seed*) is much less used in Britain than in Germany, and some other European countries. The whole plant, when fresh, has a very offensive smell; but the ripe and perfectly dry fruit has an agreeable aromatic smell and a sweetish aromatic taste. It is used in medicine as a carminative, and as a corrective of certain purgatives; also in domestic economy as an aromatic, being very often mixed with bread in the north of Europe; spirituous liquors are flavored with it; and confectioners cover it with sugar, to make a well-known comfit. In the south of England, it is common to sow C. and caraway together, the C. yielding a crop in the first year, and in years following. C. delights in a rich soil, and is much cultivated and used in India.

CORIGLIANO, *kō-rēl-yā'nō*: town of Italy, province of Cosenza, about 4 m. from the Gulf of Taranto, beautifully situated on a hill, round which it is built in the form of an amphitheatre, a fine old castle crowning the summit. The base of the eminence is clad with lemon and orange groves, amid which rise some elegant villas; the whole rendering C. one of the most agreeable places in the Calabrias. It

CORINGA—CORINTH.

has extensive licorice manufactories, and a trade in wine and fruits. Pop. 12,271.

CORINGA, *ko-rīng'gā*: maritime town in the collectorate of Godavery and province of Madras; on the s. side of the estuary of a river of its own name, one of the branches of the Godavery. Its harbor is breasted by a bar, which at spring-tide shows a depth of 12 or 14 ft. Besides having considerable general trade, it is the best place on the coast for the building and repairing of small vessels. It has been twice destroyed by inundations of the sea. In 1787, May, during the n.e. monsoon, the tide overwhelmed the city and the adjacent country, drowning about 15,000 people; and again, 1832, a similar deluge occurred, leaving behind it, besides the more ordinary traces of its power, several ships lying high and dry in fields in the neighborhood. Pop. 4,397.

CORINNA, *ko-rīn'na*: Greek lyric poetess, abt. B.C. 500; famous alike for beauty and genius; b. at Tanagra, in Bœotia. The date of her birth is not known. She lived principally at Thebes, and hence is sometimes called a Theban. Ælian states that on five different occasions she vanquished her contemporary, Pindar, in a poetic contest; but Pausanias alludes to only *one* victory of hers. Her townsmen showed their appreciation of her genius by placing a statue of her in their gymnasium. She was surnamed *Muia* ('the Fly'), probably on account of the tenderness and softness of her poems. Of her numerous poems, which were composed in the Æolic dialect, only a few fragments remain, published by Bergk, in his *Lyrici Poetæ Græci* (Leip. 1843). Mme. de Staël's C. was an Ital. improvisatrice.

CORINTH, *kō'rīnth* (originally called *Ephyre*): famous city of antiquity, on the isthmus connecting the northern division of Greece, or Hellas proper, with the Peloponnesus. Its citadel was the Acrocorinthus, an isolated hill 1886 ft. high, separated from the Oneian range on the n. of the isthmus by a ravine, and forming, in the opinion of Colonel Mure, the most gigantic natural citadel in Europe; neither the Acropolis of Athens, nor the fortress of Gibraltar being able even remotely to compete with it. At the n. foot of this hill lay the city, on a broad level rock nearly 200 ft. above the level of the isthmus. It was probably founded by the Phœnicians, who had various settlements on the Grecian coast, and who could hardly have failed to notice the extraordinary maritime advantages of its situation. According to its legendary history, however, it was founded by Sisyphus, the Æolian, about B.C. 1350. It was then conquered by the Heracleidæ, who ruled as an oligarchy for 12 generations, when they were expelled by Cypselus, father of Periander, with the help of the populace, B.C. 657. After a period of 77 years, the Spartans—the great enemies of democracy in Greece—established again a sort of aristocratic government, and C. figures in history as the close ally of Sparta. In the Peloponnesian war, it at first furnished the greater part of the

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fleet against the Athenians, but afterward became jealous of the Lacedæmonian power, and was induced to league with other Grecian states against it, B.C. 395. The war which ensued, known as the *Corinthian War*, lasted till the peace of Antalcidas, B.C. 387. In the strife which broke out between Thebes and Sparta, C. remained faithful to the latter. After the battle of Chæroneia, B.C. 338, in which the liberties of Greece were crushed by the Macedonians, it was garrisoned and held by the latter. Subsequently, it was the centre of the Achæan league against the Romans, and in revenge was utterly destroyed B.C. 146 by L. Mummius, Roman general. For a century it lay in ruins. In B.C. 46, Julius Cæsar rebuilt it, and made it the cap. of Achaia; and although it never again attained its former importance, it became both prosperous and powerful. The apostle Paul planted a Christian Church here, to which he also addressed two epistles. Pausanias, who visited it in the 2d c. after Christ, states that it then contained many public buildings. From the western emperors it passed into the hands of the Venetians. In 1458, it was conquered by the Turks under Mohammed II., recovered by the Venetians 1687, and retaken by the Turks 1715, who held it till 1823. Reduced to ashes in the revolutionary war, and again utterly destroyed by an earthquake 1858, C. was gradually rebuilt in a more convenient position near the shore of the Gulf of C. Its pop. is about 2,000.

Ancient C. was surrounded by walls which included the Acrocorinthus, and had two harbors—*Lechæum*, on the Crisæan Bay (now the Gulf of Lepanto), opening into the Adriatic; and Cenchreæ, on the Saronic Gulf (now the Gulf of Athens), opening into the Ægean. The former was connected with the city by two parallel walls. The vast wealth of its merchants was the bane of Corinth. It became notorious as the most licentious city in all Greece, and was the favorite resort of courtesans. The patron goddess of the city was Aphrodite, in whose temple, on the Acrocorinthus, were kept more than a thousand 'sacred female slaves' (*hierodouloi*) for the use of strangers. C. however, has better claims to remembrance. The art of painting is said to have been invented here, and at the time of its capture by the Romans, it possessed some of the finest pictures in Greece. Among these, was the picture of Bacchus, by Aristides, for which Attalus offered 600,000 sesterces. Architecture, statuary, and bronze-work also flourished; and earlier, during the reign of Periander, poetry was cultivated, Arion having either invented or improved the dithyramb in Corinth. Afterward, however, no attention was paid to literature by the inhabitants, and it has been noticed that 'among the illustrious writers of Greece not a single Corinthian appears.'

CORINTH (Miss.) BATTLES OF: several important operations during the war of secession. While defended by Gens. Beauregard and Bragg, it was besieged by the Union troops under Gen. Halleck, who advanced to within 8 m. of it, 1862, May 3. On May 21, he was within 3 m. of

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it, and Beauregard, deeming it impossible to resist him, began secretly evacuating May 26, and three days later had removed or destroyed everything of value, and was retreating to Tupelo. Halleck occupied C. May 30. In 1862, Sep., Gen. Rosecranz was put in command of C. with 20,000 Union troops. The Confederate Gen. Van Dorn, with an army of 30,000, attempted to take it by surprise, Oct. The attack was made on the 3d and continued on the morning of the 4th. On the first day, the defenders were driven from their outer works; but on the second, the Ohio brigade resisted the enemy's charges, while counter charges were made by Ohio and Mo. troops, before which the Confederates were compelled to retreat. Union loss, 315 killed, 1,812 wounded, 232 prisoners; Confederate (est.) 1,423 killed, 2,248 prisoners.

CORINTH, GULF OF, or GULF OF LEPAN'TO: an arm of the Mediterranean extending from w. to e. through the centre of Greece, from the Ionian to within about 5 m. of the Ægean Sea, thus almost dividing the kingdom into two parts, the Morea forming the s. portion. Its greatest length is about 75 m. with an average breadth of 15 m. The outline of the coast is exceedingly varied, and the scenery is everywhere attractive and rich in contrast. The narrow neck of land, separating the gulfs of C. and Ægina, and uniting the Morea to Attica, is the ISTHMUS of Corinth. It is variously estimated, according as it is measured from different points, at from 10 to 20 m. in length, and its breadth varies from 4 to 8 miles. The project of cutting through this isthmus was early entertained, and attempted by Nero without success. This scheme took practical shape, 1882, when the cutting of a canal four miles in length from the G. of C. to the Bay of Ægina was commenced with much ceremony by the king and queen of Greece. A strong wall, flanked with towers, was anciently built across the isthmus. The celebrated Isthmian games were contested upon this tract.

CORINTHIAN, a. *kō-rĭn'thī-ăn*: pertaining to *Corinth*, a city of Greece: N. an inhabitant of Corinth; a gay licentious person. CORINTHIAN ORDER, in *arch.*, the fourth of the five orders, characterized by fluted shafts and richly carved capitals: see COLUMN.

CORINTHIANS, *kō-rĭn'thī-anz*, FIRST AND SECOND EPISTLES TO THE: two letters of the apostle Paul, the longest (except that to the Romans) and least doctrinal of all in the N. Test. canon. Their genuineness and authenticity are abundantly shown by internal evidence, and have never been seriously disputed. The church at Corinth was founded by the apostle Paul about 52, during a sojourn of about 18 months. It soon fell a prey to evils incident to that luxurious city, such as had made the word 'Corinthianize' a synonym for corruption. The preaching of the Alexandrian Hellenist convert Apollos did much good, but was misused by some in comparisons unfavorable to Paul. Factions, at least tendencies toward faction, arose: a Judaizing party assumed the name of Cephas or

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Peter, the more liberal Greeks set up banners inscribed 'Paul' or 'Apollos,' while some boasted of being especially Christ's, apparently in a self-defeating effort to escape sectism. What were the tenets of this Christine party is matter of conjecture: Neander and Olshausen thought them self-willed philosophizers, while Alford, Howson, and Stanley supposed them an extreme wing of the Judaizers. Despising all personal rivalry, Paul urged Apollos to return to Corinth (1 Cor. xvi. 12), but he, unwilling to be preferred to his master, declined to go. When at Ephesus on his third missionary tour, the apostle heard (1 Cor. i. 11) of these contentions, and of a scandalous case of incest (1 Cor. v. 1). In a previous letter he had warned the Corinthians against sensuality (see 1 Cor. v. 9): the letter is lost; though an Armenian document published Venice, 1819, translated into German by Rinck, 1823, claims to be this epistle. Three brethren from Corinth (1 Cor. xvi. 17) appear to have brought Paul a letter (1 Cor. vii. 1) asking for some instructions; his reply, sent by them, and constituting the first canonical epistle to the Corinthians was written at Ephesus (not at Philippi, as stated in the foot-note) in the spring of 57. He begins with gratulations, but soon passes to an earnest protest against division and the overvaluing of human wisdom and eloquence (i. 10—iv. 16). After rebuking impurity (v.) and a litigious spirit and practice (vi.), he answers their questions concerning marriage (vii.), meats offered in idolatrous sacrifice (viii.), and 'spiritual gifts' (xii., xiv.). These topics involve a defense of his own conduct and authority (ix.), some remarks as to the covering of women in worship, and the proper celebration of the Eucharist (x., xi.), much praise of Christian liberty, and the exquisite chapter on charity (xiii.). He then deals with the resurrection of Christ and of believers in a long and momentous chapter (xv.), and concludes with a rule for giving alms, a promise of a speedy visit, and sundry greetings.—A brief stay in Corinth, not mentioned in the Acts, may have been made on his way to or from Macedonia. Olshausen, Ewald, and others think another epistle was sent between those known as First and Second.—The second canonical epistle to the Corinthians was written within a year after the first, either at Philippi or at Thessalonica. It was intended also for the other churches in Achaia (2 Cor. i. 1), and was carried by Titus. It is largely personal in its matter, and the mingled feelings which it reflects bear witness to two opposing currents of purpose among the Corinthians. Many, if not most, of them had received his exhortations in the right spirit (2 Cor. vii. 7, 10, 11), but others had set themselves in virulent and even derisive opposition; his indignant feeling toward these is expressed in varying tones of irony and pathos, and calls forth a vigorous sketch of his own toils and sufferings (xi. 21—xii.). He was then or had been recently afflicted with many discouragements and anxieties (i. 8, xi. 28), and with some bodily ailment (xii. 7). This epistle is not easily divisible into topics: besides his warm expression of concern for the Corinthians and vindication of his authority, there is

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much urging to a generous 'ministering to the saints, especially the poor of Jerusalem.—'The two epistles are called by Stier 'a pathology and *materia medica* for all that are designed to be physicians of the church;' and Bleek calls the First 'a type and pattern in dealing with the multifarious tendencies, relations, and disorders of the church.' They are of great historic value, full of local color and flavor, and cast much light on the condition of the early church and on the apostle's character and labors. One of the obscurest subjects touched in the N. Test. is the 'gift of tongues,' as to which our knowledge is derived chiefly from 1 Cor. xiv. Among the best English treatises on these Epistles is that of Dean Stanley; though there are also numerous commentaries of great value.

CORIOLANUS, *ko-rĭ-o-lā'nus*, **CAIUS** or **CNÆUS MARCUS**: Roman patrician, surnamed, according to the half-fabulous legend, C., on account of his capture of the town of Corioli, belonging to the Volsci (B.C. 493). Of a proud and haughty spirit, he was strongly opposed to the plebeians, whom he looked upon as the 'enemies' of his order; and on one occasion, during a time of famine, he argued in the senate against a gratuitous distribution of the corn which had arrived from Sicily, and insisted that the plebeian tribunes, lately instituted, should first be discharged from office. For this he was impeached, and banished. He took refuge among the Volscians, whom he aided in their war with the Romans. His victories at the head of his Volscian troops alarmed the Romans, who, on his approach to their city, sent a variety of deputations to plead with him. He was deaf to every entreaty. At last, the noblest matrons of Rome, headed by his old mother and his wife Volumnia, leading her two children, came to his tent. His burning desire to be revenged on those who had dishonored him was cooled by the tears of his relatives, and he led back the Volsci to their own territories, where he lived to an advanced age. Shakespeare has written a play on the subject, in which the character of C. is conceived in the grandest and most aristocratic style.

CORIUM, n. *kō'rĭ-um* [L., leather]: body armor, composed of scales or small plates of leather, worn by Roman soldiers; the *cutis vera*, or true skin, the innermost layer of the skin in mammals.

CORIVAL, v. *kō-rĭ'vāl*: in *OE.*, to vie with: see **CORRIVAL**.

CORK, n. *kōrk* [Sp. *corcho*—from L. *cortex*, bark: Fin. *kuori*, skin, bark: Dan. *kork*: Dut. *kurk*]: a species of oak whose bark, called cork, is extensively used in making stoppers for bottles, casks, etc.; a plug or stopper made of this bark; the bark of the *Quercus sūber*, ord. *Cūpūlĭ-fĕræ* or *Corylācĕæ*: V. to stop bottles or casks with corks; to make fast with a cork. **CORK'ING**, imp. **CORKED**, pp. *kōrkt*: **ADJ.** provided or fitted with a cork. **CORKY**, a. *kōrk'ĭ*, or **CORKED**, a. resembling or tasting of cork. **CORK'INESS**, n. elasticity; buoyancy. **CORKCUTTER**, n. one who makes corks, etc. **CORK-JACKET**, a jacket lined with

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cork, for sustaining the wearer in water. CORK-MACHINE, a machine which produces a cleanly cut cork, usually of cylindrical form, the tapering form being afterward given by pressure. CORK-PRESS, a press in which a cork, previously wetted, is rendered elastic, to enable it the more readily to enter the neck of a bottle. CORK-PULL, a substitute for a cork-screw, having hooks or fangs which clasp a cork when in the bottle and draw it thence. CORK-SCREW, an instrument for drawing corks.

CORK: maritime county in Munster, southmost and largest of the Irish counties; bounded on the n. by Limerick, e. by Tipperary and Waterford, s. by the Atlantic, w. by Kerry; greatest length from e. to w., 110 m.; greatest breadth, 70; average, 34; area, 1,849,683 acres, of which 431,456 were under crops in 1881. C. is hilly, with great variety of surface. The w. part is rocky, mountainous, wild and boggy; the e. and s., rich, fertile, and pictureque. The ranges run e. and w., except the Boghra Mountains, between the Lee and Blackwater. The coast is bold and rocky, and with its indentations, 250 m. long; the bays, which run 3 to 25 m. inland, admitting large vessels. The chief bays are Bantry, Dunmanus, Clonakilty, Kinsale, Cork Harbor, and Youghal. There are many isles off the coast, the chief being Whiddy (in Bantry Bay), Bear, Innissherkin, Great Island, and Cape Clear, which lies in lat. $51^{\circ} 25'$ n. and long. $9^{\circ} 30'$ w., and, with the exception of a rock 4 m. s.s.w., is the southmost point in Ireland. In the w., C. is divided from Kerry by a range of Silurian clay-slate, running n.e. and n., the chief points being 1200 to 2200 ft. high. This range sends offshoots to the e., which divide the country into the parallel basins of the three chief rivers of C., the Blackwater, Lee, and Bandon; the lower parts of these basins are well cultivated and productive. The basins of the Lee and Bandon consist of red and yellow Devonian sandstone, with some beds of lower carboniferous limestone. This limestone, as in other parts of Ireland, forms the largest lowland tracts and valleys of the county. The Blackwater basin also consists of Devonian strata, but with more limestone. Part of the Munster coal-field occupies 400 sq. m. in the n.w. of the county, with a cold, stiff, moory soil over it. The river-beds generally mark the limestone tracts. C. has many small lakes in the west. One of these lies at the source of the Lee, amid wild, picturesque scenery, with the ruins of a chapel on an islet frequented by pilgrims. The chief mineral productions are coal and iron, copper (the mines of which are the richest in Ireland), limestone, fine dark-gray and also red marble rich in fossil shells, fullers' earth, brick-clay, marl. There is a thermal magnesian spring at Mallow. The climate is moist, but genial. The soils are calcareous, loamy, and moory. The dairies are extensive, and C. butter stands in high estimation. The cattle are small in size, but yield large quantities of milk. Of the land under crops (1881), 24,597 acres were under wheat, 101,934 under oats, 22,260 under barley, bere, and rye, 68,717 under potatoes, 33,787 under turnips, 15,842 under other green crops, and 164,298

CORK.

under meadow and clover. The live-stock in the same year consisted of 54,424 horses and mules, 11,194 asses, 386,215 cattle, 264,165 sheep, 144,856 pigs, 22,857 goats, and 1,115,567 head of poultry. The chief manufactures are linen, whiskey, porter; and the chief exports provisions. Since 1885 the county returns to parliament seven members, the city two. The antiquities of C. are stone circles and altars, two round towers, circular earthworks or raths; many ruins of abbeys and churches, built chiefly by descendants of the English invaders under Henry II., and many ancient castles or square towers of great historical interest. Pop. (1841) 854,118; (1851) 653,180; (1871) 517,076; (1881) 495,607, of whom the vast majority are Rom. Catholics; (1891) 436,641; (1901) 404,611.

CORK: city and parl. borough of Ireland, cap. of the county of Cork and a county in itself; on the Lee, 11 m. above its discharge into the sea, in the centre of a picturesque valley. It is built in part on an island, formerly a swamp, which the word *Cork*, *Corcoch*, or *Corcagh* implies; in part, on the n. and s. slopes of the river-banks. The houses are generally of old red sandstone. Nine bridges cross the river to the central islands. There is a spacious public park, and a walk above a mile long, lined by noble elms, w. of the city. There is also a handsome public cemetery. C. has a pleasant picturesqueness from its uneven ground, irregular streets, intersecting river, and overhanging heights. The chief buildings are St. Anne Shandon's Church, with a tower 170 ft. high; several Rom. Cath. churches; 4 monasteries; 2 nunneries; the Bishop's Palace; and Queen's College, a fine Tudor-Gothic quadrangular building, opened 1849. The banks of the Lee above and below C. are richly planted, and studded with villas. The Lee is navigable to about a mile above the city, and on the improvement of the navigation the harbor commissioners have expended above £300,000 in the last 25 years. The extent of the quays is now above 4 m., and ships of 600 tons reach them. C. harbor, noted for its size and safety, is a basin of 10 sq. m., formed by the estuary of the Lee. It could contain the whole British navy, and has been the main source of the rise and progress of the city. The estuary contains several large isles, rising abruptly and high above the water, with narrow channels between them. The entrance is by a channel two m. long, one m. wide, defended by batteries, on Spike, Hawlboline, and Rocky Islands, which are occupied by convict and ordnance depôts, artillery barracks, and a powder-magazine. On the shores of the estuary are the towns of Passage and Queenstown, formerly Cove of Cork. C. harbor is much frequented by wind-bound ships and ships waiting orders. In 1880, 2880 vessels, with total tonnage 728,556, entered the port; and 2526, of 649,722 tons, cleared. The chief manufactures are leather, iron, gloves, gingham, friezes, flour, malt liquors, and whiskey; iron-shipbuilding has been largely carried on since 1872. The chief exports are grain, provisions, butter, live-stock, and linen, valued at several millions sterling yearly. C. returns 2 members

CORK.

to parliament.—C. grew up around an abbey founded 600 by St. Finbar. The Danes in the 9th c. built the city walls. Dermot Maccarthy, king of Cork or Desmond, surrendered it to Henry II., 1172. Cromwell besieged and took it 1649, and Mariborough 1690. James II. landed at C. 1688. In C., William Penn, the founder of Pennsylvania, became a Quaker, with several of the soldiers of the republican garrison.—Pop. (1871) 78,642; (1881) 80,124; (1901) 76,122; of whom about five sixths are Rom. Catholics.

CORK: unusually developed *epiphylæum* (see BARK) of the bark of the C.-tree or C.-OAK (*Quercus suber*), the *Alcornoque* of the Spaniards, a species of oak (q.v.), native of the south of Europe and north of Africa. Spain and Portugal chiefly supply the world with C., and in these countries, the tree is often planted for the sake of the cork. The C.-tree is not of great size, generally 20–40 ft. high, much branched, with ovate-oblong evergreen leaves, which are sometimes entire and sometimes sharply serrated. The acorns are eatable, and resemble chestnuts in taste. The bark in trees or branches from three to five years old acquires a fungous appearance, new layers of cellular tissue being formed, and the outer parts cracking from distension, until they are finally thrown off in large flakes, when a new formation of the same kind takes place. C. intended for the market is generally stripped



Cork Tree.

off a year or two before it would naturally come away, and the process is repeated at intervals of six or eight years. The bark of young trees and branches is either useless or of very inferior quality; it is only after the third peeling that good C. is produced. The removal

CORK.

of the C., being not the removal of the whole bark, but only of external layers of spongy cellular tissue, all or greater part of which has ceased to have any true vitality, and has become an incumbrance to the tree, is so far from being injurious, that when done with proper care, it promotes the health of the tree, which continues to yield crops of C. for almost 150 years. In stripping off the C., longitudinal and transverse incisions are made to the proper depth, and each piece is then cut away from the tree by a curved knife with two handles. The pieces are soaked in water, pressed flat, dried, and superficially charred, to remove decayed parts and conceal blemishes, before they are packed in bales for the market. Besides the use of C. for stopping bottles, casks, etc., it is much used, on account of its lightness, for floats of nets, swimming-belts, etc.; and on account of its impermeability to water, and its being a slow conductor of heat, inner soles of shoes are made of it. All these uses are mentioned by Pliny; but the general employment of corks for glass bottles appears to date only from the 15th century. The *Spanish Black* used by painters is made by burning C. in close vessels, and the parings of C. are carefully kept by C.-cutters for this purpose. There are many other applications of this valuable substance in the arts.

The wood of some other trees possesses the cellular sponginess, lightness, and elasticity of C. in such a degree as to be sometimes substituted for it in many of its uses, as that of the *Anona palustris* (Corkwood or Alligator Apple) in the W. Indies, etc.

CORK-CUTTING. The bark, after being cut into square pieces or sheets, is pressed, to remove its natural curvature and flatten it. If it is found that simple pressure has not flattened it sufficiently, it is heated on the convex side, and the contraction thus produced straightens it. It is then cut into slips, and these slips into squares, according to the required size of the corks. These are rounded by the cork-cutter by a broad sharp knife; the cork is held in the left hand, and rested against a block of wood, and the knife pushed forward, and at the same time its edge is made to describe a circular curve by a skillful turn of the wrist. The knife requires continual sharpening; the workman has a board before him on which the knife is rubbed on each side *after every cut*.

Many attempts have been made to cut corks by machinery. A patent C. company was established a few years since, but it failed. The chief difficulty in applying machines to this purpose arises from the necessity of continually sharpening the knife or cutters; for it is a curious fact, that so soft a substance as cork blunts the tools used in cutting it far more rapidly than do the hardest or toughest of metals. A cork-cutter's knife requires sharpening every second, while the tool that is used for planing, turning, or boring steel will work continuously for hours without sharpening. In most of the machines, the corks, after being cut into squares of the required length, are made to revolve on grasping spindles; and cutters of various forms

CORK—CORMORANT.

such as revolving cutter-wheels, hollow cones with internal cutters, reciprocating blades, toothed cutters, etc., are brought to bear upon the revolving cork.

CORK, Rock: see **ASBESTOS**.

CORLEONE, *kor-lā-ō'nā*: town of Sicily, province of Palermo, about 21 m. from the city of Palermo. It is on a hill near the source of the Belici, and is well built. Its principal public structures are convents and churches. Its inhabitants are engaged chiefly in agriculture. Pop. abt. 16,350.

CORM, n. *kawrm* [Gr. *kormos*, a stem or log]: in *bot.*, short, roundish, bulb-like underground stem of many endogenous plants. It annually produces buds in the form of small corms, either from its summit or its side; and these gradually exhaust and destroy it. In functions, as in appearance, the C. resembles the Bulb (q.v.), but its structure is different; it does not consist chiefly of scales or concentric layers, as a bulb does, but of a solid axis covered only with thin membranes. Examples may be seen in the tulip, crocus, gladiolus, colchicum, and arum. When a C. produces young corms from its summit, as in the crocus, they approach in a few years the surface of the soil, however deeply they may at first have been planted. **CORMOGENOUS**, a. *kōr-mōj'ē-nūs* [Gr. *genāō*, I produce]: having a corm or stem. **CORMOPHYTA**, n. plu. *-mof'ī-tā*, or **COR'MOPHYTES**, n. plu. *-fītz* [Gr. *phuton*, a plant]: plants which have a stem and leaves.

CORMENIN, *korm-nāng'*, **LOUIS MARIE DE LA HAYE**, Vicomte DE: 1788, Jan. 6—1868, May 6; b. Paris: French jurist and publicist. Educated for the law, he was, 1810, appointed auditor of the Council of State, and drew up several of its most important reports. He was elected a deputy 1828, and until 1846, was re-elected at every election, sometimes by as many as four departments at once. His extensive knowledge of jurisprudence, and of the practical affairs of government, and the clear and logical force with which he could present his ideas alike by speech and writing, soon secured him immense influence in public affairs. After the revolution of 1848, C. had the honor of being elected to the Chamber by four departments, and was nominated pres. of the commission appointed to remodel the constitution; and in this capacity strongly advocated universal suffrage. He was appointed member of the council of state reconstituted after the *coup d'état*. In 1855, he was elected a member of the Institut. Besides his numerous pamphlets, C. was author of *Etudes sur les Orateurs Parlementaires*, which has passed through nearly 20 editions; and of a valuable work on the law of France (*Droit Administratif*). After long silence, C. published 1860 *Le Droit de Tonnage en Algérie*. He died at Paris.

CORMORANT, n. *kōr'mō-rānt* [F. *cormoran*, a cormorant—from mid. L. *corvus-marīnus*; It. *corvo-marīno*, a sea-raven], (*Phalacrocorax*): genus of web-footed birds, of the family *Pelecanidae* or *Totipalmati*, having, like the rest

CORMORANT.

of that family, the hind toe united in a single membrane with the other toes; characterized also by a bare dilatable membrane beneath the lower mandible, extending to the upper part of the throat, but not forming a great sac on the throat, as in the pelicans; a compressed bill, rounded above, and with a strong hook at the point of the upper mandible; the nostrils linear, and seemingly impervious to air; the claw of the middle toe serrated, apparently in order that it may be used in trimming the plumage; the wings of moderate length; the tail-feathers stiff and rigid, and used to aid in walking or climbing. The species are distributed over the coasts of most parts of the world, some of them occasionally ascending rivers in pursuit of



Cormorant.

fish, on which all of them exclusively live, and even visiting inland lakes. They are proverbial for excessive voracity. They do not take their prey by diving when on wing, but pursue it by swimming and diving, using their wings in progress under water, and descend to a wonderful depth; the smaller of the two British species has been caught in a crab-pot fastened 120 ft. under water. When the prey has been caught in a manner inconvenient for swallowing, they toss it in the air, and adroitly catch it as it descends. Some of the species frequent high rocks, others low islands, on which they make rude nests, chiefly of sea-weed; some perch and even build their nests on mangroves and other trees. Their eggs are covered with a calcareous incrustation. The flesh of all the species is dark and of a fishy taste, but is sometimes used as food, particularly the flesh of young birds. The Common C. (*P. carbo*) is mostly of a black color, but for a short time during the breeding season exhibits a sprinkling of longish, white, almost bristly feathers on the head and back of the neck; it is abt. 33 inches long; it is a very widely distributed species, and was formerly sometimes tamed in England, to be employed in catching fish, and is still trained to this use in China. The Green C. or Shag (*P. graculus*) is of smaller size, and of a prevailing dark-green color.



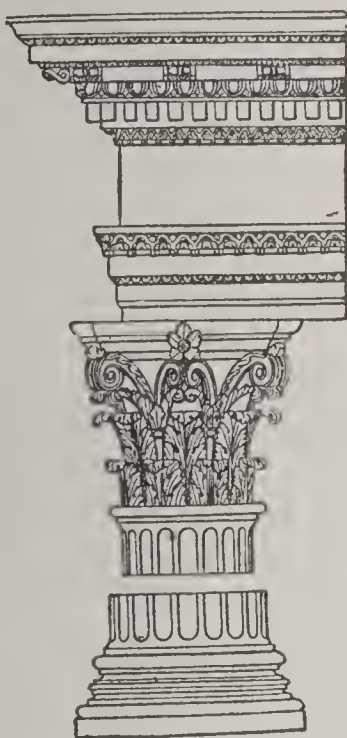
Coralline.—Portion of Branch of *Corallina officinalis*, magnified.



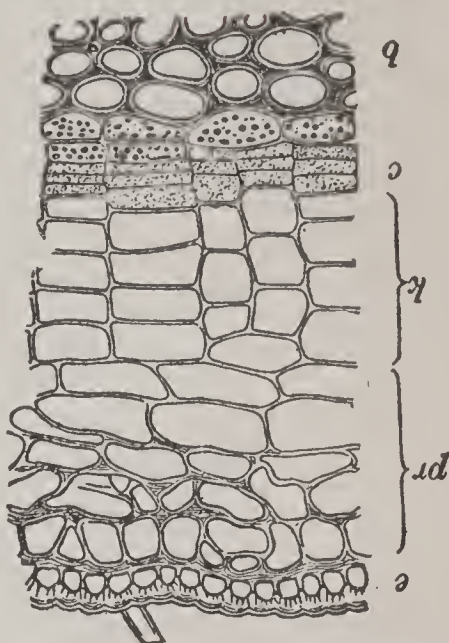
Coriander (*Coriandrum sativum*).



Roman Corium.



Corinthian Order.



Formation of Cork in a branch of Black Currant, one year old (mag. 350 diameters): *e*, Epidermis; *b*, Bast-cells; *pr*, Cortical parenchyma; *k*, The cork-cells formed from *c*, Cork-cambium.



Corm of *Crocus sativus*.



Cordate Leaf.

CORN—CORNACEÆ.

The C. is often called the sea-raven, and is the synonym of a glutton; also of one who preys upon others.

CORN, n. *kawrn* [Goth. *kaurn*; Icel. *kiarni*; Dan. *korn*, corn, grain: Dut. *keerne*, a grain, kernel: comp. Gael. *cuir*, to sow seed, seed; *caoran*, berries or seeds: allied to Lat. *granum*, grain, and to Ger. *kern*, kernel]: a single seed or grain of one of the edible plants: grain of all kinds—applied in any country to the principal bread stuff, or at least to a grain commonly used for food—in England, wheat; in Scotland, oats; in the United States, maize (q v.) or Indian corn—all of the ord. *Graminæ*. CORN, v. to cure meat with salt in grains. CORN'ING, imp. CORNED, pp. *kawrnd*: ADJ. granulated; applied to salted beef. CORN'LESS, a. CORNY, a. *kõr'nĩ*, corn-like. CORN-CHANDLER, a dealer in corn. CORN CRAKE, the corn-crow; the land-rail: see CRAKE. CORNED BEEF, beef cured with salt for keeping. CORN EXCHANGE, a place where grain is sold and where corn merchants meet. CORN COCKLE, a wild plant of corn-fields, having large beautiful red flowers—the *Agrostemma githago*, ord. *Caryophyllacæ*. CORNING-HOUSE, the place where gunpowder is granulated or corned. CORN-FLAG, a kind of plant bearing red or white flowers; the common name of *Gladiolus*, ord. *Iridacæ*. CORN-FLOWER, a plant growing among corn, as the wild poppy or corn-rose, the blue-bottle, etc. CORN-HARVESTER, a machine for cutting corn in the field; sometimes delivering the corn in shocks, sometimes merely laying it in gavels on the ground, or in a cradle on the machine, whence it is taken by hand and shocked. CORN-HUSKER, a machine for husking corn. One kind husks it off the stalk standing in the field. CORN, INDIAN: see MAIZE. CORN-KNIFE, a blade about 20 inches long used for cutting standing corn. CORN-MOTH, a small moth, *Tinea granella*, the larva of which attacks corn in the granaries. CORN-MUSTARD, a name for *Sinapis arvensis*. CORN-POPPY, *Papaver Rhæas*. CORN-ROW MARKER, a sled with a gauged width, between the runners for marking out rows in which to plant corn. CORN-STONE, in *geol.*, a term usually applied to the reddish and bluish-red limestones occurring in the middle formation of the old red sandstone—so called from the fertile corn-soil overlying them, e.g. in Herefordshire and Shropshire, England, and in s. Wales.

CORN, n. *kawrn* [F. *corne*, a horn, a horny swelling—from mid. L. *cornu*—from L. *cornu*, a horn: It. *corno*]: a horny excrescence on a toe or some other part of the foot, troublesome and painful: see CORNS. CORNEAN, a. *kõr'nĩ-ăn*, in *geol.*, an igneous rock, so called from its tough, compact, and horn-like texture. COR'NEOUS, a. *-nĩ-ūs*, horny, of a substance resembling horn. CORN'LESS, a. without corns. COR'NY, a. *-nĩ*, hard; corn-like.

CORNACEÆ, *kawr-nā'sē-ē*: small nat. ord. of exogenous plants, containing about 40 known species, chiefly trees and shrubs, with a few herbaceous plants. The leaves are simple, without stipules; the flowers in heads, umbels, or corymbs. The calyx is 4-lobed or 4-toothed; the petals 4, equal, oblong, broad at the base, inserted into the upper

CORN APHIS—CORNARÒ.

part of the tube of the calyx; the stamens 4, alternate with the petals; the ovary is adherent to the tube of the calyx, 2—3-celled crowned by a disk; the ovules solitary; the style filiform; the stigma simple; the fruit is fleshy and drupe-like. The *C.* are natives of the temperate parts of the n. hemisphere. The fruits of some are eatable; the bark and leaves of some are medicinal; some are valued as ornamental plants. CORNEL, DOGWOOD, AUCUBA, and BENTHAMIA are examples.

CORN A'PHIS, or WHEAT A'PHIS (*Aphis granaria*): species of *Aphis* (q. v.), or Plant Louse, sometimes injurious to corn crops, appearing in great numbers on the ears, sucking the juices of the plant, and so impoverishing the



Corn Aphis:
α, natural size.

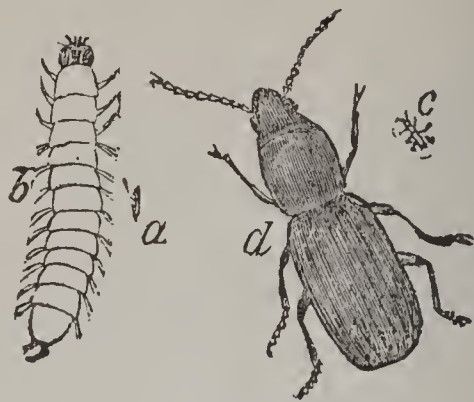
grain. It infests wheat, barley, and oats. The male is green, the female dull orange.

CORNARÒ, *kor-nâ' ro*, CATERINA, QUEEN OF CYPRUS: 1454–1510, July 5; b. Venice. She succeeded her husband, James II., Lusignan, as regent, when 19 years old, and ruled benignly till 1489, Feb. 26, when, harassed beyond further endurance by the social and political jealousies of her court and the day, she abdicated the throne in favor of the republic of Venice, and returned to her native city. The doge gave her the castle of Asola for a residence. Titian painted her portrait, and the romancists have since written many pleasant fictions on her private life and public career.

CORNARÒ, LODOVICO: Venetian nobleman; 1467—prob. 1566: remembered as an instructive example of temperance. His constitution, naturally not strong, was greatly injured by intemperate eating and drinking, with other excesses; so that, when 40 years of age, he appeared to have little hope of prolonged life. At this time he adopted strict rules of temperance both in meat and in drink, which, co-operating with his general care of health, and gentle exercises of various kinds, served to extend his life, according to the best authorities, to nearly 100 years. His old age was remarkably cheerful. He wrote in his 83d year his celebrated treatise, *Discorsi della Vita Sobria* ('Essay on Temperate Living'), published first at Padua, 1558; translated into all European languages. The best English translation is one bearing date 1779.

CORN BEETLE--CORNEILLE.

CORN BEE/TLE (*Cucujus testaceus*): minute beetle which inhabits granaries and mills, and of which the larva



Corn Beetle:

a, larva, natural size; b, larva, magnified; c, perfect insect, natural size; d, perfect insect, magnified.

often does much mischief, feeding, like the weevils, on grain, particularly on wheat. The perfect insect is of a bright fulvous color; the larva ochreous, with a forked tail.

CORN'BRASH, in Geol.: member of the Lower Oolite, so called from the readiness with which it disintegrates for the purposes of corn-land. It consists chiefly of a rubbly, cream-colored limestone, in thin layers, always nodular and concretionary, each fragment having a deep-red coating. Occasional beds of clay occur, interstratified with the limestone. The whole thickness of the group rarely exceeds 15 ft. The C is extremely rich in Echinodermata and Mollusca, with the exception of Cephalopoda, the abundant Oolite genus *Belemnites* being unaccountably wanting.

CORNBURY, *korn'bér-î*, EDWARD HYDE, Lord: d. 1723. Apr. 1: British gov. of New York. He was eldest son of the second earl of Clarendon and by marriage nephew of James II. whom he deserted 1688 to enter the service of the Prince of Orange. When the latter became King William III. he appointed C. colonial gov. of New York. He reached his post 1702, May 3, and entered upon an administration which proved so arrogant, corrupt, and scandalous that the crown authorities yielded to the demands of the colonists and removed him 1708. He was then held under arrest for some time by his creditors, but upon the death of his father he returned to England and succeeded to the title and estate.

CORNEA, n. *kör'ně-ă* [L. *corněus*, 'horny—from *cornu*, a horn: F. *cornée*—from *corne*, horn]: one of the coats of the eye, a horny transparent membrane forming the front part of the eye-ball through which the light passes: see EYE. CORNEULE, n. *kör'nul*, a little cornea, such as covers each segment of the compound eyes of insects.

CORNEILLE, *kor-nāl'*, PIERRE: creator of French tragedy: 1606, June 6—1684, Oct. 1; b. Rouen, where his father was an advocate. Pierre studied for the legal profession. A love adventure, in which he became the rival

CORNEL.

of a friend, first prompted C. to write verses, and *Mélite*, the comedy founded on this incident, was performed with success 1629. It was quickly followed by other dramatic pieces: *Clitandre*, *La Veuve*, *La Galerie du Palais*, *La Suivante*, and *La Place Royale*—all so successful that a special theatrical company was formed for the performance of C.'s pieces. In 1635 appeared his *Médée*, a declamatory drama, in imitation of Seneca. Cardinal Richelieu, who aspired to be the Mæcenas of the stage, kept in his pay a number of writers for whom he dictated plots, and wished to number C. among his retainers; but C. was so audacious as to alter the plan of a comedy, and lost the cardinal's favor. He then returned to his native place, where M. Chalon, once sec. to Maria de' Medici, suggested that he should turn his attention to tragedy. As the English drama was not known, or at least not relished at that time beyond the limits of England, C. acquired the Spanish language that he might study the Spanish drama, the only other of any consequence in Europe. The result was the *Cid* (1636), which was received with enthusiastic applause. Cardinal Richelieu alone seemed to find no merit in this drama, and induced the Academy to publish a critique in some respects unfavorable. In his next celebrated piece, *Horace* (1639), C. endeavored to establish his claim to creative genius, which had been questioned by his enemies; but *Cinna* (1639) has been regarded by some French critics as C.'s master-piece, though others might award the honor to *Polyeucte* (1640). In the *Mort de Pompée* (1641), though there is something dignified in the style, it occasionally passes into bombast. The comedy of *Le menteur* (1642), partly taken from Pedro de Roxas, has natural truth and humor. C. seems at this point to have exhausted his resources, and all his later pieces are almost forgotten. Of his 33 dramas, only a few have kept their place on the French stage. Nevertheless his countrymen call him *Le grand Corneille*, though Voltaire, who edited an edition of his works, and Laharpe have expressed themselves in some respects unfavorably regarding his genius. The faults of conception in several of his pieces were pointed out by the sharp criticism of Lessing. A. W. Schlegel also spoke of C. in such a way as to provoke hot replies from the wounded pride of the French littérateurs. C.'s chief merit lies in his dignity of style, and in a certain declamatory grandeur of sentiment, which his countrymen have been accustomed to consider truly epical, and which it is now impossible to convince them as nearly resembles rant as it does sublimity. The best edition of his complete works was edited by Renouard (12 vols., 1817).—C.'s brother, THOMAS C. (1625–1709), also acquired reputation as a dramatic writer.

CORNEL, n. or a. *kör'něl* [F. *cornille*, and *cornouille*—from L. *cornus*, the cornel-cherry—from *cornu*, a horn] (*Cornus mas*): the Cornelian Cherry (*Cornus* of the ancients); tree or shrub 15–20 ft. high, of the nat. ord. *Cornaceæ*; native of the middle and south of Europe, and of great part of Asia. It was formerly much cultivated as a fruit-tree, as it still is in Germany and some other parts of Europe.

CORNELIA.

It has oval leaves, and small yellow heads of flowers, which appear before the leaves in spring, and which abound in honey and are much frequented by bees. The fruit is oblong, a little larger than a sloe, shining, red, or rarely yellow or white. It is late in ripening, and until quite ripe is very austere; but when perfectly mellow, has an agreeable vinous acid taste; it is either eaten as it comes from the tree, or is made into a preserve, which is said to be tonic, and useful in diarrhœa. When gathered unripe, it is pickled like olives. It was formerly also fermented for a beverage. In Turkey, it is still much used in making sherbet. The wood of the *C.* is extremely hard and tough,



Cornel:
a, a branch with leaves and fruit; b, a single flower.

and well adapted for those purposes of joiners and turners to which the size of the tree will admit of its application. It is used for making mathematical instruments.—**DWARF C.** (*C. Suecica*), native of mountain-pastures and bogs throughout the north of Europe, is a plant about six inches high, with creeping root, sessile ovate leaves, each stem producing a single umbel of a few purple flowers, followed by small sweetish red fruit, which is tonic, and has the power of remarkably increasing the appetite, whence the plant has received a Gaelic name, signifying *Plant of Gluttony*.—Dogwood (q.v.) belongs to the same genus.

CORNELIA, *kor-nē'li-a*: Roman matron, daughter of P. Scipio Africanus the elder, and of Æmilia (daughter of L. Æmilius Paulus). Though of the most aristocratic birth, she married into a plebeian family, well-known, however, for its integrity and public spirit, and as the wife of T. Sempronius Gracchus became the mother of 12 children, all of whom died in infancy except Sempronia, who married P. Scipio Africanus the younger, and Tiberius and Caius

who subsequently achieved great distinction as tribunes. After the death of her husband she declined an offer of marriage from Ptolemy, King of Egypt, and retired to a house in Misenum which was afterward the residence of Marius and Lucullus and the death-place of the emperor Tiberius. She was a woman of exalted virtue, large intelligence, and great hospitality, called her children her richest jewels, and was known as the 'Mother of the Gracchi.' See GRACCHUS.

CORNELIAN, n. *kör-ně'li-ăn* [F. *cornaline*—from It. *cornalino*—from L. *cornu*, a horn]: a variety of chalcedony—also spelled CARNELIAN. *Note*.—The spelling CARNELIAN arose from a popular etymology, as if it were derived from L. *carněūs*, fleshy, in allusion to the flesh-like color of the stone: see further, CARNELIAN.

CORNELIUS, *kor-ně'li-ūs*, ELIAS, D D.: 1794, July 31—1832, Feb. 12; b. Somers, N. Y. He graduated at Yale 1813, studied theol. with Dr. Dwight and Lyman Beecher, was licensed to preach 1816, and ordained an evangelist 1817. Appointed an agent of the A. B. C. F. M., he was assigned to missionary labor among the Cherokee and Chickasaw Indians, travelled through the south and raised money to establish missions for them, rescued an Indian child from a band who had scalped her mother, educated her, and made her story the subject of the well-known Sunday School book *The Little Osage Girl*. He became the colleague of Dr. Worcester in the Tabernacle Church, Salem, Mass., 1819, was sole pastor 1821–26, and sec. of the American Education Soc. 1826–32. He was appointed sec. of the A. B. C. F. M., 1832, Jan., but died from brain fever at Hartford within a month. He received the degree D.D. from Dartmouth College, 1829. He was noted for Christian devotedness.

CORNELIUS, *kor-ně'le-ūs*, PETER VON: 1787, Sep. 23—1867, Mar. 6; b. Düsseldorf: one of the first masters of the modern German school of painting. He studied under Langer in the academy of his native town. When only 19 years of age, he painted some remarkable frescoes for the cupola of the old church of Neuss. Four years later, he gave still more unmistakable proofs of a creative fancy in his illustrations of Goethe's *Faust*, and the *Nibelungen Lied*. In 1811 he went to Rome. This journey had profound influence on the whole of his future career. The great importance of the early masters became ever clearer to him as he studied their choicest productions. He gained a wide reputation, while at Rome, by two cartoons, *Joseph's Interpretation of the Dream*, and *Joseph's Recognition of his Brethren*. In 1819 he was called to Munich, and entered the service of the then crown-prince of Bavaria. Here he remained till 1841, and executed those grand works on which his fame mainly rests, and which may be divided into two classes, Pagan and Christian, the former of which comprises the large frescoes in the saloon of the Glyptothek, all illustrating stories of the Greek gods and heroes, as also representations of several Hesiodic myths, and of the

CORNELIUS NEPOS—CORNELL UNIVERSITY.

various incidents of the Trojan war; while the latter, or Christian series, begun after the completion of the former in 1830, consists of frescoes on New Testament scenes, extending from the 'Incarnation' to the 'Judgment,' and decorate the 'Ludwig's Church' in Munich, built for the purpose of affording scope for the genius of Cornelius. The 'Judgment' is the largest fresco in the world, larger even than Michael Angelo's 'Judgment' in the Sixtine Gallery. In 1841, C. was invited by the king of Prussia to Berlin, where he was appointed director of the Berlin Academy. Among his productions in the Prussian capital are the frescoes for the Campo-Santo, or royal burial-place. Opinion is divided regarding the merits of Cornelius. By his own countrymen he is extremely admired; French critics, on the other hand, regard him as more a thinker than an artist, sacrificing to his conception both truth of color and expression. He is admitted to have been a profoundly creative genius, but *not* a painter. He formed, however, a numerous school, from which have gone forth many illustrious pupils; but he lived to see it losing hold on public sympathy.

CORNELIUS NEPOS.: see NEPOS.

CORNELL, *kor-něł'*, EZRA: 1807, Jan. 11—1874, Dec. 9; b. Westchester Landing, N. Y.: philanthropist. He received a common-school education, removed to Ithaca 1828, was manager of the mills there many years, planned and built the water-power tunnel at Fall Creek, superintended the erection of the first telegraph line in the United States, opened for business between Washington and Baltimore 1844, June, and spent the remainder of his business life in the extension of the telegraph service throughout the northern and western states. He was a delegate to the first republican national convention 1856, pres. of the N. Y. State Agricultural Soc. and its representative at the international exposition at London 1862, member of assembly 1862-3. and state senator 1864-68. In 1865, he founded Cornell Univ. (q.v.), at Ithaca, with an endowment of \$500,000, to which he subsequently added nearly \$400,000. He also established the C. library at Ithaca, at a cost of \$100,000.

CORNELL UNIVERSITY: at Ithaca, Tompkins co., N. Y.; established through the liberality of Ezra Cornell, with aid from the U. S. govt. and chartered by the N. Y. legislature 1865, Apr. 27. In 1862, July, congress passed an act granting to each state 30,000 acres of public land for each senator and representative to which it was entitled in that body, on the condition that it should provide at least one college where the leading object would be to teach such branches of learning as are related to agriculture and the mechanic arts, without excluding other scientific and classical studies, and including military tactics. Under this act the share of N. Y. state amounted to 990,000 acres, one-tenth of the value of which could be used for experimental farms, but no portion for buildings. The state received the scrip for this amount of land in the west, and

first offered it to another institution which failed to carry out the conditions imposed; and then, through the efforts of Ezra Cornell, Andrew D. White, and others, the legislature incorporated the C. U. and appropriated to it the entire proceeds of the sale of this land on the conditions that the institution should be suitably endowed and should receive one student annually from each assembly district in the state without charge for tuition. Mr. Cornell then gave it an endowment of \$500,000, to which he subsequently added nearly \$400,000 in cash, land, and buildings. Organized in accordance with the requirements of its charter, it was formally opened 1868, Oct. 7, under the presidency of Hon. Andrew D. White. In his address upon this occasion, Mr. Cornell made a declaration which has since been adopted as the motto and aim of the institution: 'I would found an institution where any person can find instruction in any study.' Including the founder's endowment, the institution has since received gifts amounting to over \$17,000,000 besides other funds not yet available. Pres. White remained in charge of C. U. till his appointment to be U. S. minister to Germany, and was followed by Charles K. Adams, LL.D., who, resigning 1892, May, was succeeded by Jacob G. Schurman, PH.D. C. U. is thoroughly equipped in every dept., and it has had remarkable success from its inception. Its material equipment consists of the following buildings: Morrill Hall, containing the offices, architectural rooms, and agricultural museum; White Hall, gift of ex-Pres. White, rooms of the literary societies and of the Univ. Christian Assoc.; McGraw Hall, gift of the late John McGraw, the library, anatomical lecture-room, seminary room, special and general anatomical laboratories, geological and paleontological lecture-rooms and laboratories, the great bell, the McGraw chime of nine bells, and the great clock; the civil engineering building, laboratories, museums, and class-rooms; Sibley College, gift of Hon. Hiram Sibley, who gave also the machinery, and the greater part of all the collections with which the buildings are supplied, class-rooms, museums, work-shops, drawing-rooms, laboratories, and other features of the dept. of mechanic arts; chemical and physical building, opened 1883, Sep.; Sage College for women, gift of Hon. Henry W. Sage, home or dormitory for students, parlors, gymnasium, museum, laboratory, dining hall, lecture and recitation rooms, and special facilities for the pursuit of botany, floriculture, and ornamental gardening; Sage Chapel, same donor, auditorium with seating capacity of about 500 persons, small chapel opening into it, and the memorial chapel completed 1884 and having rich memorial windows commemorating the connection of Ezra Cornell, John McGraw, and Mrs. Jennie McGraw-Fiske with the univ.; gymnasium and armory; Barnes Hall, gift of the late Hon. Alfred S. Barnes, for the use of the Univ. Christian Assoc.; and the buildings on the experimental farm. Many of the museums and collections are of exceptional extent, value, and interest, and in some lines the latter are unequalled, certainly in this country. The museum of archeology

CORNER—CORNET.

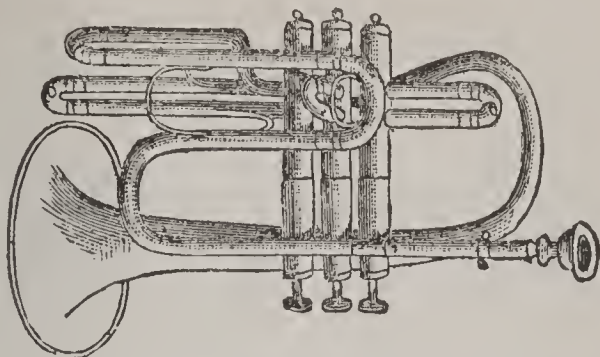
comprises about 4,000 specimens; of botany 15,000 species; of chemistry 3,500 specimens, many of extreme rarity; of conchology 80,000 examples of over 20,000 varieties, representing at least 15,000 species; of paleontology includes the Jewett collection of N. Y. fossils and the Hartt unique collection from Brazil; and of general zoology the Hartt collection of 3,500 examples of about 2,400 species of entire animals in alcohol, and a large number of *papier-mâché* models. The library, including the Pres. White collection, contains (1902) 249,634 vols. and 40,500 pamphlets, and comprises the Anthon library of nearly 7,000 vols.; the Bopp library of 2,500 vols. on oriental languages and literatures; the Goldwin Smith library of 3,500 vols., historical works and English and ancient classics; the White architectural library of over 7,500 vols.; the Kelly mathematical library of 1,800 vols. and 700 tracts; the Cornell agricultural library bought by the founder; the Jared Sparks library of over 5,000 vols. and 4,000 pamphlets relating to the history of America; the May collection, relating to the history of slavery; the Eugene Schuyler collection of folk-lore; the law library of over 4,000 vols., bought by the univ.; and the Pres. White library of history and political science, of 30,000 vols. and 10,000 pamphlets, presented 1887, Jan. 19. The univ. received up to 1888 from the Mrs. Jennie McGraw-Fiske bequest \$700,000, the income of which is to be used for the support and increase of the library. The scholarships number 566; there are 24 fellowships yielding \$400 each for one year, or, in cases of remarkable merit, for two years; and four standing prizes; male candidates for admission must be at least 16 years old and female 17; the fee for tuition is \$25 a term, and the average annual expense \$300. It includes a law school, a school of pharmacy, the Pres. White school of history and political science, a school of pedagogy, a school of journalism, a college of agriculture, the Sibley college of mechanical and electrical engineering, etc. The professors and instructors resident and non-resident (1901-2) numbered 367, and students 3,290.

CORNER, n. *kör'nér* [OF. *cornière*, a corner—from F. *corne*—from mid. L. *corna*, a corner; also L. *cornu*, a horn, a projecting point: comp. Gael. *cearn*, a corner]: a horn-like projection; the small space at the point where two lines meet; an angle; a small confined part of a larger space; a secret or retired place; every part; the end or limit. **CORNERED**, a. *-nèrd*, having corners. **CORNER-MAN**, one who buys up as much as possible of any commodity, so that the speculative sellers of it when the time comes to deliver are unable to fill their engagement, except by buying of the corner man at his own price. **CORNER-STONE**, the principal stone uniting two walls at a corner. **CORNERWISE**, a. with the corner in front. **CORNERLESS**, a. without corners.

CORNET, n. *kör'nèt* [F. *cornet*—from F. *corne*—from L. *cornu*, a horn]: a stop, or series of pipes, in an organ, intended to imitate the tone of an obsolete wind-instrument which has been superseded by the oboe.—The **CORNET-A-**

CORNET—CORNETO.

PISTON, a modern wind-instrument of the trumpet kind, is generally made of brass, has two or three valves, and in brass bands takes the soprano and contralto parts. It was



Cornet-a-piston.—Kœnig's Model.

first introduced in France as an orchestral instrument. Its tones are less powerful, but far more easily manageable than those of the trumpet.

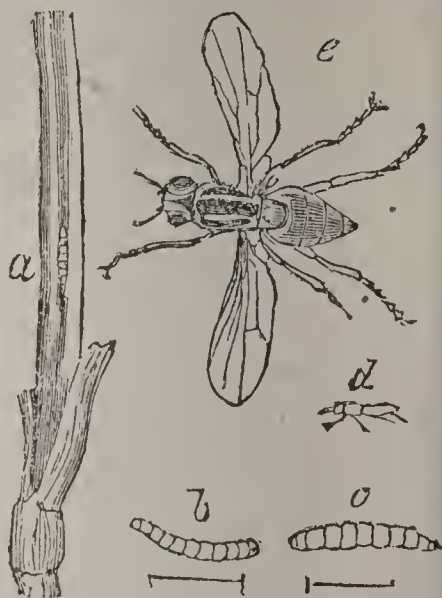
CORNET, n. *kôr nêt*, [It. *cornetta*, the ensign carried by a lancern on horseback; F. *cornette*, a cornet of horse]: until 1871, the lowest grade of commissioned-officer in the Brit. cavalry, equivalent to *ensign* in the infantry, his duty being to bear the standard of the troop. A C.'s commission, in the days of 'purchase,' cost £450; but much larger sums were habitually paid, varying according to the celebrity, or rather the fashionable character of the corps. The pay being utterly inconsistent with the price paid for the commission, none but wealthy men could enter the cavalry. In 1871, the rank was abolished, sub-lieutenants (merely probationary lieutenants) being substituted. **COR'NETCY**, n. *-sî*, the rank of a cornet or his commission.

CORNETO, *kor-nâ'tō*: town of central Italy, about 12 m. n. of Civita Vecchia, occupying a commanding eminence on the left bank of the Marta, two or three m. from the Mediterranean, over which it has an extensive view. Pop. 5000. C. rose out of the ruins of the Etruscan city of *Tarquinii*, and is enriched by some of its monuments. It was erected into a city by Eugenius IV. 1432: but the picturesque old battlemented walls and towers which surround it are said to belong to an earlier period. During the faction-wars of the Guelphs and Ghibellines, this city maintained a firm allegiance to the popes.—The remains of *Tarquinii* (perhaps the most interesting in existence to the student of Etruscan history, as it is from the tombs here that most of our knowledge as to the games, costumes, and religious customs of this remarkable people has been derived) lie about a m. and a half from Corneto. The Necropolis of *Tarquinii* covered 16 sq. m., and it has been estimated on high authority that it could not have contained less than 2,000,000 tombs. Of this vast number, some 2000 have been opened within recent years. Among the most noteworthy of these are the Grotta delle Iscrizioni, the Grotta delle Bighe, Grotta del Barone, Grotta Francesca, Grotta del Cardinale, Grotta del Triclinio, and Grotta della Querciola. Treasures from this mine of Etruscan wealth, as it may be called, enrich the British

CORN FLY—CORN GROUND BEETLE.

Museum, and other important collections in Britain and on the continent.

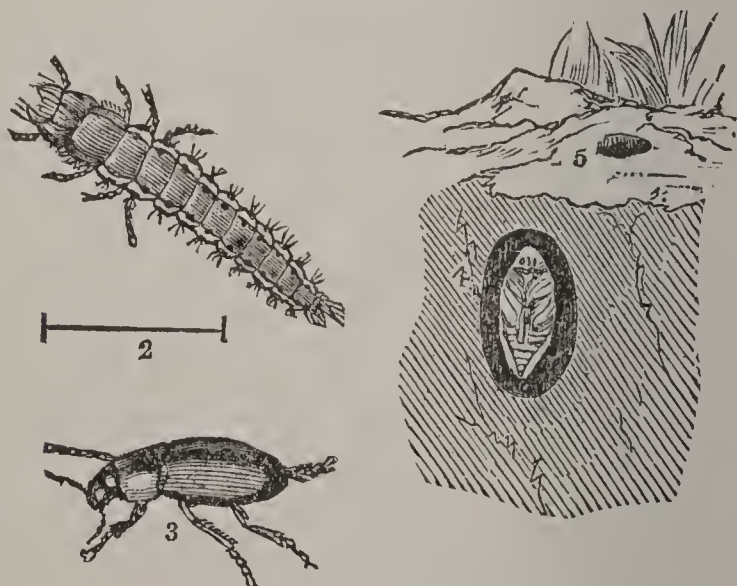
CORN FLY: common name of a number of small dipterous (two-winged) insects, of the large family *Muscides*, particularly of the genera *Chlorops* and *Oscinis*, which do great injury to corn crops. A most destructive species is *Chlorops tæniopus*, a fly about a line and a half in length, of a pale yellow color, with black stripes, which deposits its eggs between the leaves of young plants of wheat or barley. The maggots living on the juices of the plant produce the disease which, from the swelling of the joint, is called *gout*; and the plant, impoverished, either produces no ear, or an imperfect and partially shrivelled one.



CORN GROUND BEETLE

(*Zabrus gibbus*): insect of the ord. *Coleoptera*, section *Pentamera*. It is about six lines in length, of a shining pitchy black color, with rusty jaws and legs, very broad and convex, the wings large, the antennæ short and slender. It burrows in the ground, climbs the stalks of wheat and barley by night, and devours the ears. The larva is of a remarkable appearance, whitish, with brown head and

Corn Fly (*Chlorops tæniopus*):
a, a portion of a culm or stem of wheat with swollen joint, caused by larva of corn fly; b, larva; c, pupa; d, fly, natural size; e, fly, magnified.



Corn Ground Beetle:

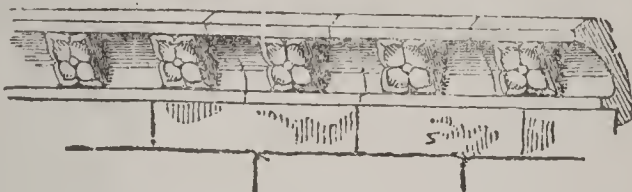
1. larva, magnified; 2, natural size of larva; 3, perfect insect, female, slightly magnified; 4, a cell containing pupa; 5, a burrow.

thorax, and a brown stripe down the body, powerful jaws, six thoracic legs, and little tufts of hair along the sides of its elongated tapering abdomen. It burrows in the earth,

CORNICE—CORNICLE.

and eats the stems of corn close to the surface of the ground.

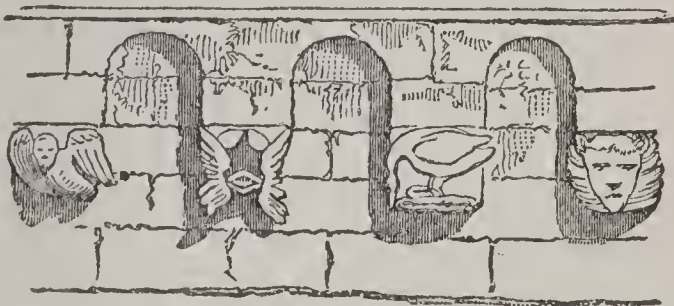
CORNICE, n. *kõr'nīs* [OF. and It. *cornice*; F. *corniche*, a cornice—from L. *corōnā*: Gr. *korōnē*, the summit or head]: the highest projection or border on a wall or column; the projecting molding used to finish off the top of



Cornice:

Ensham Church, Oxon, abt. 1450.

a wall. In classical architecture, the C. is the uppermost member of the entablature, surmounting the frieze. Each of the orders has its peculiar C.: see **ENTABLATURE**. In the Gothic styles, the form of the C. varies greatly. 'In the Norman style,' says Parker, 'a plain face of parapet, slightly projecting from the wall, is frequently used as a C., and a row of blocks is often placed under it, sometimes plain, sometimes molded or carved into heads and other ornaments, when it is called a corbel table.' These blocks have commonly a range of small arches over them. In some cases a small plain string is used as a cornice. The corbel table continued to be used as a C. in the early English style; but it was generally more ornamented than in the Norman, the arches being commonly trefoils and



Corbel Table.

well molded. The blocks are frequently ornamented with a head, or other figure characteristic of the style. Sometimes a range of horizontal moldings is placed above the arches of the corbel table, and sometimes the C. consists of simple moldings, without any corbel table.

The term C. is also used, in a general sense, to signify any horizontal molded projection, terminating a building, or the component parts of a building; e.g. the C. of a room.

CORNICHE: see **RIVIERA**.

CORNICLE, n. *kõr'nī-kl* [L. *cornic'ulum*, a little horn—from *cornu*, a horn]: a little horn. **CORNICULATE**, a. *-nīk'-ū-lāt*, horned. **CORNIFIC**, a. *-nīf'ik* [L. *facio*, I make]: producing horns. **CORNIFORM**, a. *-nī-fawrm* [L. *forma*, shape]: having the shape of a horn. **CORNIGEROUS**, a. *-nīj'ér-ūs* [L. *gero*, I carry]: having horns,

CORNIFEROUS PERIOD—CORNISH.

CORNIFEROUS PERIOD *kor-nĭf'ēr-ŭs*, in Geology: second of the five divisions of the Devonian age, sometimes included with the first under the name of Lower Devonian. It embraces the cauda galli epoch, named from the feathery forms of a fossil; the Schoharie epoch, whose rocks are fine-grained, calcareous sandstones, full of fossils; and the Upper Helderberg epoch, whose rocks are limestones, and whose epoch is the coral reef period of the paleozoic ages. The C. P. contains the earliest discovered remains of fishes.

CORNING, *kawr'nĭng*: village of N. Y., one of the caps. of Steuben co., in C. township, on the Chemung river and the New York and Erie, the C. Cowanesque and Antrim, and the Syracuse Geneva & C. railroads. It is abt. 290 m. w.n.w. of New York, 132 m. e.s.e. of Buffalo, and 17 m. w.n.w. of Elmira; has a free academy that cost \$75,000, a court-house, 7 churches, 3 banks, a public library, a number of iron-foundries, flint glass-works, and manufactories of railroad cars, and two weekly newspapers. C. has a large lumber and coal trade, and is connected by bridge across the Chemung with Knoxville. Pop. (1880) 4,802; (1890) 8,550; (1900) 11,061.

COR'NING, **ERASTUS**: 1794, Dec. 14–1872, Apr. 9; b. Norwich, Conn.: merchant. He became clerk in his uncle's hardware store in Troy when 13 years old, and in the business house of James Spencer in Albany when 20, where he was afterward admitted to partnership. On the death of his uncle, who willed him the greater part of his property, he established the large hardware firm of E. C. & Co., bought a controlling interest in the extensive Albany iron-works, engaged also in the banking business, and applied much of his time and means to the development of the railroad system of the state. He effected the consolidation of various roads into the New York Central railroad, and was its pres. 12 years; was state senator 1842–45, member of congress a democrat 1857, Dec. 7–1859, Mar. 3, and 1861, July 4–1863, Mar. 3; member of the peace congress 1861; was elected regent of the Univ. of N. Y. 1833, and was vice-chancellor of the board at his death. He left a fortune of \$8,000,000.

CORNISH, n. *kōr'nĭsh*: the inhabitants of *Cornwall*, or their dialect: this dialect, probably used in Cornwall and in the bordering part of Devonshire, has ceased to be spoken since the beginning of this century: **ADJ.** pertaining to. **CORNISH-STONE**, the soft decomposing granites of Cornwall from which the finest pottery clays are obtained, either naturally or artificially; kaolin.

CORN LAWS.

CORN LAWS, ENGLISH: ancient statutory enactments restricting the trade in grain, repealed 1846. The English C. L. date as far back as the year 1360, in the reign of Edward III. Before that period, there seems to have been a general rule carried into effect by the crown against the exportation of any grain; and the act of 1360 enacts the prohibition, but at the same time excepts Calais and Gascoigne, with any other places which the king may appoint by license, from its operation. In 1393, the arrangement was reversed, and the right to export was made general, unless to those places to which it was prohibited by royal proclamation. An act of 1436 permitted exportation when the price of wheat did not exceed 6*s.* 8*d.* per quarter. Hitherto, there seem to have been no prohibitions against importation; but in 1463, an act was passed prohibiting it so long as the price at home was below the 6*s.* 8*d.* at which there was free exportation. The next change was in the reign of Henry VIII., when an act of 1534 prohibited all exportation except by license specially granted under the great seal. This act was not found to work well; and 20 years later, the previous arrangement was adopted of allowing exportation when the price had reached a certain point. The subsequent legislation for some time merely changed the price at which exportation might begin, generally enlarging it. After the Restoration, the policy of increasing the duties on importation, for the protection of agriculture and the landed interest at home, begins to be perceptible. At the same time, the effect of the Restoration on the condition of Scotland and England toward each other forms a curious illustration of such fiscal regulations. Under the Protectorate, they were one country, with free intercommunion of trading privileges. Scotland was increasing in wealth under this arrangement; but the countries were separated by the restoration of Charles II., and became the same to each other as foreign nations. The English duties restricted the importation of grain from Scotland; and in 1663, the Scotch parliament, in retaliation, laid heavy duties on the importation of English and all other foreign grain. Had not the union of 1707 made the countries one again, England and Scotland would probably have continued a corn-law contest against each other, like the French provinces.

The agricultural interests continuing powerfully to modify this department of legislation, an act was passed 1670, for virtually prohibiting importation, until the home-price had reached 5*s.* 4*d.*, and laying a heavy duty on it above that point. This law had, however, little effect in favor of the landed interest, from the circumstance, that then, and long afterward, Britain was an exporting, not an importing country—that is to say, it generally produced more grain than its population required. A new device was adopted at the Revolution, and a bounty was awarded on exportation—that is, a sum was paid to the producer for what he exported, so that if the price in the foreign market might not induce him to send corn abroad, the bounty, in

addition to that price, might. For upward of a century, the numerous enactments in this department were a mere shifting, according to circumstances, of the incidence of the bounty on the one hand, and of the import duty on the other. In 1773, a permanent adjustment was supposed to be reached by Burke's act, which removed the bounty, and prohibited exportation when the price reached 44s., and allowed importation at a nominal duty of 6d., at a price of 48s. Afterward, especially during the great war of the French Revolution, it became usual to profess that the chief object of this kind of legislation was to keep always a sufficient supply of grain at home for home wants, and to render Britain entirely independent of foreign nations for the food of the people. It was maintained that the bounty effected this object, since its tendency was to promote the production of more grain than was necessary at home, and it thus supplied a granary to be drawn upon in case of famine. It was otherwise, however, maintained, that the prohibiting, or, at all events, restraining the introduction of foreign grain, would give a much greater impulse to home production. Looking at it from the agricultural interest solely, this view was well founded; for, as the tendency of Britain to be an importing rather than an exporting country was increasing, the exportation, even with the encouragement of the bounty, was likely to be small. It could not, however, escape consideration, that to increase home production by a pressure on importation, was virtually to aggrandize the landed interest by a pressure on the food of the people. With these views, the price at which importation might begin was raised 1804, and was again raised 1814, when the bounty was abandoned as worthless for its purposes. There had been a tendency to what is called 'a sliding scale' in the duties on importation. This arrangement was brought into systematic shape by the act of 1814, and subsequently, by the celebrated act of 1828, it reached what was considered by its supporters a state of perfection.

Throughout these various changes there were not wanting writers and speakers who denounced the C. L., and agitated for their removal. But the public at large, though vaguely considering that the laws were in some way improper, or at variance with the principles of political economy, did not, till the very last, earnestly unite in calling for repeal. There was a powerful party who defended the C. L., and represented, with wonderful plausibility, that these restrictive statutes were identified with the best interests of the country. Their arguments might thus be summed up: 1. Protection of grain-raising was necessary to keep certain poor lands in cultivation. 2. It was desirable to cultivate as much land as possible, in order to improve the country. 3. If improvement by that means were to cease, the nation would be dependent on foreigners for a large portion of its food. 4. Such dependence would be fraught with immense danger; in the event of war, supplies might be stopped, or ports might be blockaded, the

CORN LAWS.

result being famine, disease, and civil war. 5. The advantage gained by protection enabled the landed proprietors and their tenants to encourage manufactures and trade; so much so, that if the C. L. were abolished, half the country shopkeepers would be ruined; that would be followed by the stoppage of many of the mills and factories; large numbers of the working-classes would be thrown idle; disturbances would ensue; capital would be withdrawn; and no one would venture to say what would be the final consequences. These arguments exercised a commanding influence over the laboring-classes, the small-town shopkeepers, almost all the members of the learned professions, and a considerable section of both houses of parliament. As usual, and irrespective of the merits of the case, a conservatism in which ignorance, prejudice, and timidity were united with selfishness stood up for maintaining the ancient usage; and those who honestly endeavored to represent the impolicy of a restricted trade in corn, were generally set down as little better than mischief-makers. The most surprising thing of all was, that the statesmen who ultimately joined in condemning the C. L., could contemplate no other modification than an ascending and descending scale of duties, according as prices fell or rose in the market. About 1840, there was no term better known than that of the *sliding scale*. The object of this device was to reduce the import duty as the price of grain increased, for the purpose of virtually prohibiting the importation when the price was low, and encouraging it when the price was high, so that at famine-prices grain might come in duty free. By the act of 1828, the price of 62s. a quarter on wheat was taken as the turning-point. At that price, the import duty was £1, 4s. 8d. For every shilling less in the price, a shilling was added to the duty. When the price rose above this point, a different gradation ruled, the duty decreasing by a larger ratio than the rise. Thus, when the price was 69s., the duty was 15s. 8d.; and when it rose to 73s., the duty sank to its minimum of 1s. The effect of this fluctuation in rendering the trade a gambling one was, one would think, obvious, and yet it was not acknowledged until it had been proved by a series of ruinous instances. Thus, an importer who, when the price of grain was 73s. a quarter, bought a cargo, if the price sank 4s. before he could accomplish a sale, had not only to sell at that reduced price, but with a further reduction of 14s. 8d. a quarter paid as duty. What was still more important, the supplies to Britain being so capricious and irregular, foreign countries did not grow corn habitually for the British market. In 1843, Sir Robert Peel tried a modification of the sliding scale, which did not in the least degree mitigate the hostility to the C. L., the noxious nature of which was now becoming an article of popular belief. Roused by the addresses of Mr. Cobden, Mr. Bright, and other leaders of the Anti corn-law League (q.v.), the people poured in petitions to parliament; and at length Sir Robert Peel, yielding to representations on the subject, and now avowedly a convert to

CORN MOTH—CORNPLANTER.

free-trade (q.v.), carried a measure to put an end to the C. L. in 1846.

The results of the repeal are well known. They did not meet the claims and expectations of the extreme advocates on either side. Though evil prognostication has been falsified, the liberation of the trade in corn has not lowered the price of bread to the extent anticipated. This is accounted for variously—by immense expansion in trade, and increase of population, and growth in means and in taste, all tending to keep up prices; and by the cost of freight, etc., virtually to some extent protecting the home-grower. The small registration duty was abolished 1869, since which time import of grain has been free. The benefits claimed from repeal of the C. L. are, stimulus to trade, removal of apprehensions as to the effects of insufficient harvests, with some modification and less fluctuation in price. But it is not denied that since 1876 a new period has set in with the development of competition from the United States. The fact that English agriculture has suffered severely has given rise to a Fair-trade party, demanding ‘among other things, what they consider a reasonable protection for the landed and cultivating classes.’

CORN MOTH (*Tinea granella*): small species of moth of the same genus with the clothes moths (q.v.). This moth is satiny and of a cream-white color; the superior wings marbled with gray, brown, and black, and when at rest sloping like the roof of a house, their fringe turned up behind like a tail. It abounds in spring and summer, and lays its eggs either among stored grain, or in sheaves in the field. The eggs are so small as to be invisible to the naked eye. The larva, or **CORN WORM**—which, for its voraciousness, is known as *the wolf*—eats into the grain, and attaches grains together by a web. It attacks indifferently any kind of grain; sometimes also books, articles of pasteboard, woolen stuffs, and even wood. Frequent turning of heaps of corn is resorted to for the destruction of the eggs and larvæ, and salt is for the same purpose mixed with corn; the floors, walls, ceilings, beams, etc., of granaries are scrubbed with hot water and soap, or washed with lime and water, sprinkled with vinegar, etc.; and lamps are employed to attract and kill the moths.—Another very troublesome moth, also called C. M., is *Butalis cerealella*, found in some parts of Europe and America.

CORNO, *kör'no*, **MONTÉ**, or **GRAN SAS'SO D'ITAL'IA**, *grân-sâs'so de-tâ'le-â*: mountain in s. Italy, the culminating peak of the Appenines; lat. 42° 27' n., long. 13° 38' e. It has an elevation of 9,591 ft.; and its summit is covered with snow at all seasons.

CORN'PLANTER, or **GARYAN-WAH-GAH**: 1732–1836, Feb. 17; b. Conewaugus, N. Y.: Seneca Indian chief. He was the son of John O'Bail, a trader, and an Indian mother, and became notorious as the leader of that portion of the Senecas which, in the old French war, entered into an alliance with the French against the English, whom he fought in the battle resulting in Braddock's defeat. During

the Revolutionary war he was a persistent foe of the Americans, and by his ravages through the frontier settlements of N. Y. and in the Wyoming valley, made his name a general terror among the whites. After the close of the war he sought the friendship of the white man, was faithful in his allegiance, incited many reforms among his subjects, and is credited with having been the first temperance lecturer in the United States.

CORN RENT: see RENT: LEASE.

CORNS [see CORN 2]: small, hard growths, resulting from an increase in the thickness of the cuticle or epidermis, generally caused by the irritation of some excessive pressure or friction on the part. They occur most frequently on the toes, as a result of tight shoes. Three varieties of C. are described, viz.—1. *Laminated Corns* or *Callosities*, in which the hardened cuticle is arranged in layers, frequently of a dark-brown color, from the effusion of blood in the deeper layers. 2. *Fibrous Corns* (clavi), which are not only fibrous in their early stages, but, as time goes on, sink into the skin, sometimes producing great pain. Frequently, a bursa, or small bag, is formed beneath, to protect the tender subjacent tissues; and if this bursa should inflame, matter speedily forms, and the pain and constitutional irritation become severe; at other times, the pressure may cause absorption of the ends of bones, and serious alterations in the condition of a joint. The duty of the chiropodist is to dislodge the imbedded peg of hard cuticle from its socket. Should he cut it across, the fibrous arrangement will present the appearance of 'roots,' a popular delusion of great value to itinerant corn-doctors. 3. *Soft C.* occur between the toes, and cause much annoyance; they are generally small, and being constantly bathed in perspiration, the cuticle does not harden, as in the other varieties. They sometimes give rise to painful ulcerations.

The treatment of C. consists in the removal of all undue pressure or friction, either by removing the shoe altogether, or protecting the corn by surrounding it with a border of some soft material, as amadou (q.v.), or soft leather; or the hardened cuticle may be softened by the application of some alkaline lotion, and then scraped or filed away; or it may be extracted, as before mentioned. A lotion of soda or potash is often found very useful. The cuticle composing a soft corn should be clipped off with scissors, and a small piece of cotton-wool be placed between the toes. In all serious cases, application should be made to a respectable chiropodist.

C. affect horses as well as men. In the foot of the horse they occur in the angle between the bars and outer crust, and consist in a bruise of the sensitive, secreting sole. Two forms of feet are especially subject to them—those with deep, narrow, slanting heels, in which the sensitive sole becomes squeezed between the doubled-up crust and the shoe; and wide, flat feet, which, by the senseless cutting away of the bars and outer crust, allow the delicate interior parts to be pressed with all the force of the animal's weight on the

CORN SALAD.

unyielding iron shoe. Serum and blood are poured out, while the secreting parts being weak and irritable, produce a soft, scaly, unhealthy horn. C. constitute unsoundness; cause a short, careful, tripping gait; are the most frequent source of lameness amongst roadsters; abound in badly-shod horses, especially those with the kind of feet alluded to; and occur usually in the inside heels of the forefeet, these being more especially subjected to weight, hence to pressure. The discolored spot indicating the recent corn must be carefully cut into with a fine drawing-knife; any serum of blood is thus allowed free vent. If the bruise has been extensive, a poultice will have the twofold effect of allaying irritation, and relieving the sensitive parts by softening the hard, unyielding horn. When the injury has been of some standing, and soft, faulty horn is secreted, a drop of diluted nitric acid may be applied. On no account must the bars or outer crust be removed; they are required for bearing weight; which may be further kept off the injured part by the use of a bar-shoe. In horses subject to C., keep the feet soft by dressing with tar and oil or any suitable emollient; pare out the C. every fortnight; use a shoe with a wide web on the inside quarter, and nailed only on the outside; and, if the sole is thin and weak, employ leather pads.

CORN SALAD, or LAMB'S LET'TUCE (*Fedia* or *Valerianella*): genus of plants belonging to the nat. ord. *Valeri-*



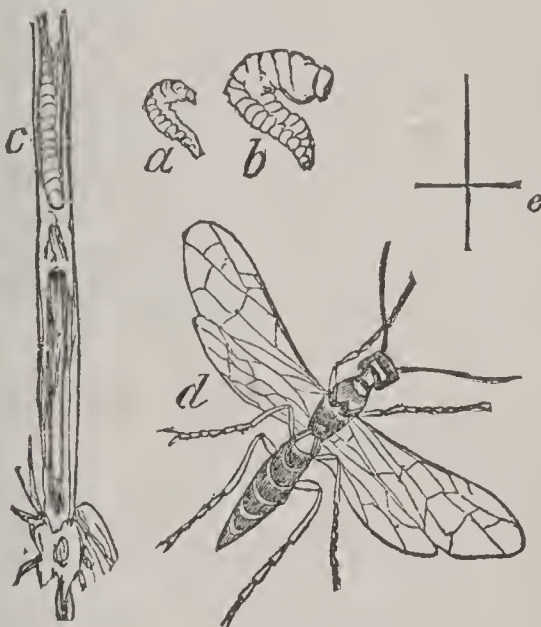
Corn Salad:
b, a flower.

anaceæ, having a toothed calyx and 5-fid corolla, three stamens, and a 3-locular fruit, crowned with the calyx.

CORN SAWFLY—CORN-SNAKE.

The species are annual plants of humble growth, with repeatedly forked stems, and very small flowers, growing in cultivated grounds, etc. Several species, very closely resembling each other, are natives of Britain, and others are found on the continent of Europe. Some of them are frequently used as spring salads, and sometimes as a substitute for spinach, particularly the common C. S. (*F.* or *V. olitoria*), the most abundant species in Britain, the *Mäche* of the French, *Rapunzcher* of the Germans. It is a favorite salad in France and Germany, though it is mucilaginous, and lacks pungency. The lower leaves are somewhat spoon-shaped, the upper leaves oblong. The plant is extremely easy of cultivation, and can be obtained in the very first days of spring, when vegetables are scarce. The VINEYARD SALAD of the Germans (*F.* or *V. carinata*), and ITALIAN C. S. (*F.* or *V. eriocarpa*), are sometimes preferred for their larger leaves or finer flavor.

CORN SAWFLY (*Cephus Pygmaeus*): species of Sawfly (q.v.), which sometimes does much mischief in cornfields, particularly to wheat and rye; the female, by means of



Corn Sawfly :

a, maggot, natural size; *b*, maggot, magnified; *c*, the maggot in its ear in the stem of the corn; *d*, female insect, magnified; *e*, female insect, natural size.

her ovipositor, laying her eggs in the stems either below the first joint or just under the ear; the larva consuming the inside of the stalk, sometimes perforating the joints, and at last cutting it through near the ground, and undergoing its transformation into the pupa state in the stump which remains. The C. S. is almost half an inch long, of a very slender form, shining black, with some yellow markings; the larva is fat, tapering, wrinkled, and yellow. The fly is often seen on the flowers of umbelliferous plants.

CORN-SNAKE: serpent of brownish color, sometimes 5 ft. in length; common in the southern states. Its food

CORN THRIPS—CORNWALL.

consists of small animals, such as mice. It is tame, and not venomous.

CORN THRIPS (*Thrips cerealium*): minute insect, not quite a line long, often abundant on flowers, and which does much mischief to grain crops, particularly late-sown wheat, insinuating itself between the chaff and the immature grain, which it causes to shrivel; also at an earlier period causing the abortion of the ear, by puncturing the stalks above the joints and sucking the juice. The C. T. is of a shining, pitchy black, the body long, the male wingless, the female having four narrow wings, fringed with long hairs; the larva is yellow, as is also the pupa, which is active: see THRIPS.

CORNUCOPIA, n. *kör'nū-kō'pī-ă*, **COR'NUCO'PIÆ**, n. plu. *-kō'-pī-ē* [L. *cornu*, a horn; *copiā*, plenty]: the horn of plenty; in *sculp.*, the emblem of abundance. This emblem—regarding the origin of which several fables are told by the ancient poets—is generally placed in the hands of figures of Plenty, Liberality, etc., who are represented as pouring from it an abundance of fruits, corn, etc. It is frequently used both in architecture and in heraldry, being often represented on the arms of banks and other public institutions pouring forth coins.

CORNULITES, n. *kör'nū-līts* [L. *cornu*, a horn: Gr. *lithos*, a stone]: in *geol.*, a genus of ringed shelly tubes occurring in silurian strata—probably annelid burrows. **COR'NU-AMMO'NIS**, n. *-ăm-mō'nīs* [from Jupiter *Ammon*, who was worshipped under the figure of a ram's head]: a fossil shell like a ram's horn; the ammonite: see AMMONITE: AMMONITES (shells).

CORNUS, *kor'nūs* [L.]: genus of plants, the typical one of the ord. *Cornaceæ* (q.v.).

CORNUTE, a. *kör'nūt* [L. *cornūtus*, provided with horns—from *cornu*, a horn]: in *bot.*, horn-shaped; horned; made a cuckold. **CORNUTE**, v. *kör-nūt'*, in *OE.*, to bestow horns upon; to cuckold. **CORNU'TING**, imp. **CORNU'TED**, pp. **CORNUTO**, n. *kör-nū-tō* [It.]: in *Shaks.*, a man horned; a cuckold.

CORN'WALL: maritime county, the s.w. extremity of England, and the southmost county in the British Isles. It is a peninsular right-angled strip of land, with the apex in the s.w., and is bounded on the e. by Devonshire, with the Tamar between, on the n. and w. by the Atlantic, and on the s. by the English Channel. From its Devonshire boundary it runs s.w., narrowing to the Land's End, the westmost part of England, in 5° 41' 31" w., it then bends n. to Penzance, whence it sweeps round in a s.e. direction to the Lizard Point, the southmost part of England, in 49° 57' 30" s. From thence it follows a n.e. course to Plymouth Sound. Greatest length in a straight line from Welcomb to the Land's End, 81 m.; extreme breadth from Welcomb to Rame Head, 46 m. Area, 1,365 sq. m., of which seven-eighths are arable, meadow, or pasture. The surface is irregular, with rapid ascents and descents. A

CORNWALL.

ridge of rugged, bleak, moory hills, rising 800 to 1,300 ft., run s.w. through the centre of Cornwall. From this ridge the country slopes, and the streams flow on each side. The hill valleys are longer and wider on the s. than on the n. side of this ridge, and some of them are picturesque with corn, wood, orchards, rivulets, and meadows. The coasts are bold and rocky, and indented with many headlands and bays. The chief indentations are Plymouth Harbor, Falmouth Harbor, one of the finest in Britain, and Mount's Bay between Lizard Point and Land's End. Twenty-four m. off the latter point are the Scilly Isles. On the n.w. coast occur shifting sands, often in hills several hundred ft. high. The chief rivers are the Tamar, which runs 59 m. along the e. border, 19 m. being a tidal estuary, ending in the noble roadstead of Plymouth Sound; the Fal, which runs 20 m. south, 10 m. being tidal, and ends in the fine harbor of Carrick Road, near Falmouth; and the Allan or Camel, 29 m. long, 8 being navigable. Woods, meadows, arable land, and 140 parish churches, are said to have been submerged between Mount's Bay and the Scilly Isles. Old red sandstone, the 'killas' of the miner, covers above three-fourths of C., and is intersected by three large masses of granite in the interior of the county, with one around Land's End, and by porphyry veins and dikes, some being 50 or 80 fathoms thick, also by limestone beds. The granite on the hills is in many places worn by the weather into the form of prismatic, cubical, or spheroidal blocks, piled in gigantic cairns. These blocks sometimes form logging or logan stones. Copper and tin veins, generally 1 to 3 ft. thick, but varying from the thickness of paper to 30 ft., and of unknown depth, run through the granite and sandstone, generally from east to west. Tin also occurs in the gravel; and lead, silver, cobalt, and antimony veins in the sandstone. Lizard Point consists of mica-slate, with soapstone veins, and chinastone; and the country around, of serpentine, hornblende, and dillage rocks. Chinastone, or decomposed felspar of granite, is found near Launceston, and is a chief ingredient in retorts and crucibles made in Staffordshire. In 1880, C. had 38 copper mines, 5 lead mines, and 73 tin mines, producing 2,004 tons of copper, 570 tons of lead, and about 12,000 tons of black tin. Of iron ore, 15,865 tons were produced. C. yields one-half of the copper and nine-tenths of the tin raised in the British Isles. The great mining district extends from Dartmoor, in Devon, to Land's End, the veins and lodes occurring chiefly in granite, or killas. About 30,000 persons are employed in mining.

The climate is mild, especially in winter, but damp, with almost daily rain. Snow rarely lies more than a few days, s.w. winds prevail for nine months in the year, and furious gales are frequent. Some plants of the south of Europe, as the myrtle, tamarisk, and balm of Gilead, flourish in the open air; but fruits do not ripen well. The soil is light, gravelly, or slaty. The land is generally barren in the mining tracts, but fruitful in the valleys and on the coast. The chief crops are barley, wheat, oats, and

CORNWALL—CORNWALLIS.

potatoes; but harvest is generally later than in the inland counties. Near Penzance, however, two crops of potatoes are got yearly. C. is far more a mining than an agricultural county. The pilchard-fishery is very profitable, and employs a large number of people from July to Sep. The only exports are mining produce and fish. Landed property is much divided. The total area of C. is 869,878 acres, or 1359 sq. m. The county is in six electoral divisions (Bodmin, Camborne, Launceston, St. Austell, St. Ives, Truro,) each returning one member to parliament. C. has ancient British antiquities, such as rude, upright stone blocks, single and in lines, circles, barrows, and cromlechs. Many Roman coins, etc., have been found. There are many Saxon camps and earth-works. C. and the Scilly Isles were the Cassiterides, or tin isles of the Phœnicians and Greeks. Vortigern made C. a kingdom, A.D. 446. The West Saxon kings subdued it 650. The Saxons and Danes overran it in the 9th and 10th centuries. C. has remains of ancient castles and monasteries. It was erected into a duchy 1329, in favor of the Black Prince, eldest son of Edward III., who, with the succeeding Princes of Wales, had immense revenues from the county. The dukedom is still held by the Prince of Wales, who derives from it a revenue of £80,000, and appoints the sheriffs. The Cornish tongue, a Celtic dialect, became extinct only in the present century: see CELTIC NATIONS. —Pop. (1871) 362,343; (1881) 329,484; (1901) 322,857.

CORNWALL, *kaorn'wal*: town, Orange co., N. Y.; 48 m. n. of New York, 5 m. s. of Newburg, on the w. bank of the Hudson river. It contains the village and U. S. military acad. of West Point, and the village of C.-on-the-Hudson, at the foot of Storm King, a noted peak of the Highlands; is supplied with numerous hotels and boarding-houses; and is a popular place for summer residents and excursion parties, on account of the magnificence of its scenery and its historical associations. Pop. (1870) 5,989; (1880) 3,833; (1890) 3,766; (1900) 1,966.

CORN'WALL: port of entry, cap. of Stormont and Glengarry cos., province of Ontario, Canada; on the St. Lawrence river, the C. canal, and the Grand Trunk railway; 67 m. s.w. of Montreal, 105 m. n.e. of Kingston. It has excellent water-power, which supplies a large number of mills and cotton and woolen factories. There are several churches and hotels, and two weekly newspapers. Pop. (1881) 5,436; (1891) 6,805; (1901) 6,704.

CORNWALL, BARRY: see PROCTER, BRYAN WALLER.

CORNWALLIS, *kaorn-wōl'is*, CAROLINE FRANCES: 1786, July 12—1858, Jan. 8; daughter of a clergyman in Kent, England. She acquired a thorough knowledge of Latin and Greek, and made herself conversant with nearly every study which occupies thoughtful men—with philosophy, theology, history, natural science, social science, politics, and even law. From an early age she carried on a correspondence on such subjects with many eminent persons; and a valuable selection from her *Letters* has been published.

CORNWALLIS—CORN WEEVIL.

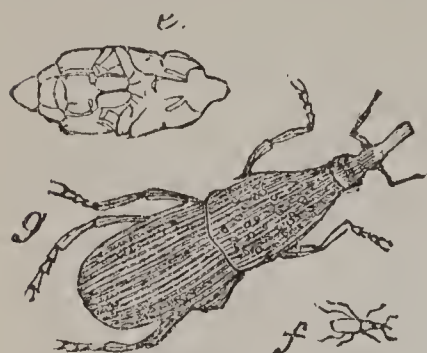
Her first work, *Philosophical Theories and Philosophical Experience, by a Pariah*, appeared in 1842. It was the first of a series of 20 'Small Books on Great Subjects,' nearly all of which were written by her. The subjects discussed were very various—the Connection of Physiology and Intellectual Science, Ragged Schools, Grammar, Criminal Law, Chemistry and Geology, Greek Philosophy, and the History and Influence of Christian Opinions. The works in which the last-mentioned subject was treated—*The State of Man before the Coming of Christ* (1 vol.), and *The State of Man after the Coming of Christ* (3 vols.)—were so judiciously written, that, though presenting a system of thought and belief different from the orthodox Christian teaching, they were favorably received by many of every religious party. The series as a whole attracted much attention in Britain and America. Miss C. also published 1847, *Pericles, a Tale of Athens*; and 1853, a prize essay on Juvenile Delinquency. She died near Tunbridge Wells. See her *Letters and Remains* (1864).

CORNWALLIS, CHARLES, Marquis: English general and statesman: 1738, Dec. 31—1805, Oct.; son of the first Earl Cornwallis. He was educated at Eton and Cambridge; served as aide-de-camp to the Marquis of Granby in the Seven Years' War; in 1776 was made a col., and four years later, gov. of the Tower of London. Though personally opposed to the war in America, he accompanied his regiment thither, and with an inferior force gained victories over Gen. Gates at Camden, 1780, Aug., and over Gen. Greene at Guilford, 1781, Mar. In the same year, however, he was forced to surrender with his whole army at Yorktown, Va. This disaster ended the final struggle of the Revolution, proved the ruin of the British cause in America, and was the occasion of much dissatisfaction, resulting in a change of ministers at home. C. however, who was high in favor with the king, escaped censure. In 1786, C. was appointed gov.gen. of India and commander-in-chief, and in this double capacity distinguished himself by his victories over Tippoo Saib, and by his unwearying efforts to promote the welfare of the natives. His measures, however, were far from accomplishing the results which he sought. He returned from India, 1793, when he was raised to the rank of marquis. Appointed lord-lieut. of Ireland, 1798, during the Rebellion, he succeeded in putting it down, and in establishing order in a manner that gained him the good-will of the Irish people. As plenipotentiary to France, he negotiated the peace of Amiens. Reappointed gov.gen. of India, 1804, he died at Ghazipore, in the province of Benares, on his way to assume the command of the army in the upper provinces.

CORN WEEVIL (*Calandra granaria*): a coleopterous insect of the family *Curculionidæ*, which although a small creature, not quite two lines long, is often extremely destructive to grain stored in granaries. It is much more common in southern than in northern Europe. The perfect insect is of a dark chestnut or reddish pitchy color.

CORN WORM—COROLLA.

with short oval wing-cases, but without wings, the thorax much marked with depressed dots, the head elongated into



Corn Weevil:

e, pupa, magnified; f, insect, natural size; g, insect, magnified.

a proboscis, the antennæ bent at right angles. The female makes a little hole in a grain of corn, and deposits an egg in it, the larva feeds on the farina; and as a single female lays many eggs, and perfect insects are soon produced from them, the mischief, unless counteracted, extends very rapidly. To arrest it has always been found extremely difficult; and the most successful method is said to be that of making a little separate

heap of grain, which, being left unstirred, while the greater heap is stirred very frequently, soon becomes the refuge of the weevils, particularly if it is a heap of barley, of which they are fondest, although they will eat any grain: in the separate heap they are killed by boiling water.—Of the same genus are the rice weevil (*Calandra Oryzae*), and a large S. American insect (*C. palmarum*), an inch and a half long, the grub of which lives in the stems of palms, and is eaten as a delicacy both by Indians and Creoles. For this and other corn insects, see corn insects, Morton's excellent *Encyclopædia of Agriculture*. Blackie, London and Glasgow.

CORN-WORM: see CORN-MOTH.

CORO (province and town): see FALCON.

COROLLA, n. *kõ-rõl'lă*, COROL, n. *kõr'õl* [L. *corolla*, a small wreath or crown—from *corona*, a garland, a wreath], in Botany: the inner floral envelope of the greater number of phanerogamous plants; the second of those whorls of modified leaves which form the flower (q.v.) It is in the C. chiefly that fine colors and the greatest delicacy and beauty of the flower are in general displayed. The modified leaves of which it is composed are called *petals* and are very various in form and number. They are also in very many plants united into a tube at the base, when the C. is said to be *monopetalous*; and this union often extends through their whole length, leaving their number to be discerned merely in the teeth in which the C. (bell-shaped, funnel-shaped, tubular, etc.) terminates. The petals of a flower are either similar, when the C. is said to be *regular*; or they differ in form, often very widely, when it is called *irregular*. They not unfrequently assume remarkable and even grotesque forms. Many petals have appendages of various kinds, as *scales*, *nectaries*, *spurs*, *coronæ* or *crowns*, etc. Petals often consist of a *limb*, or expanded portion, and a *claw*, the narrower part, which is covered by the calyx, and by which the petal is attached; but sometimes the claw is wanting or obsolete, sometimes it is united with the tube of the calyx, so that the petals appear to rise out

COROLLARY—CORONA.

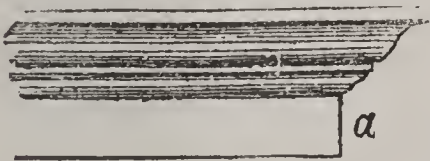
of the calyx: see CALYX and PERIANTH. COR'OLLA'CEOUS, a. -lā'shūs, pertaining to a corolla; protecting like a wreath. COR'OLLET, n. -let, one of the florets of a corolla.

COROLLARY, n. kōr'ōl-lēr-ī [F. *corollaire*—from mid. L. *corollārium*, a corollary—from L. *corolla*, a little crown, a garland: It. *corollario*, the little mark or crown indicating the deduction from the proposition]: a consequence necessarily resulting from the demonstration of a proposition; an inference from a preceding proposition, so clear as to need no separate demonstration.

COROLLIFLORÆ, n. plu. kō-rōl'li-flō'rē [L. *corolla*, a small wreath; *Flora*, the goddess of flowers]: in *bot.*, the class of plants having the petals all united to form a tube, and the stamens adherent to them.

COROMANDEL COAST, kōr-o-mān'dēl: often vaguely taken as the whole of the w. shore of the Bay of Bengal; extends, in its proper acceptation, from Point Calimere, lat. 10° 17' n., long. 79° 56' e., to Gondegam, lat. 15° 20' n., long. 80° 10' e. It is pretty nearly co-extensive with the districts of Tanjore, Arcot, Chingleput, and Nellore, comprising, with Madras and Pondicherry, the grand battle-field of last century between England and France in India. With various estuaries and inlets, it is yet commercially of very little value, not presenting a single safe place of refuge for large vessels. So shallow, moreover, is the water for a considerable distance from the land, that ships of any size are obliged to lie several miles off; while the intermediate space, or at least that belt of it that is nearest the beach, presents a surf in which no ordinary boat can live—the only safe craft being the native catamaran (q.v.).

CORONA, n. kō-rō'nā [L. *cōrōna*, a crown, a garland: It. *corona*: F. *couronne*]: in *arch.*, the drip, or flat lower member of the projecting part of a classical cornice: see



a, the Corona.

ENTABLATURE: also the apse or semicircular termination of the choir, especially in ecclesiastical nomenclature; hence we hear of 'Becket's crown,' at Canterbury: in *meteor.*, a halo or luminous circle round

the sun, moon, or a planet: in *anat.*, the upper surface of the molar teeth; in *bot.*, an appendage of the corolla in some flowers; sometimes assuming the appearance of an interior corolla very different from the true corolla, and either divided into parts resembling petals, or consisting only of one piece, and surrounding the organs of fructification like a monopetalous corolla; sometimes assuming very peculiar forms. It is often difficult to determine whether the C. is properly to be regarded as belonging to the row of petals, or to that of stamens. The C. was included by Linnæus under the very comprehensive term nectary. A familiar example is seen in *Narcissus*; forms very different occur in *Stapelia*, and other genera of the nat. ord. *Asclepiadaceæ*: in *furnishing of buildings*, a chandelier, or circle of metal

CORONA—CORONATION.

tubing in the form of a crown, suspended from a roof, for holding lights. **CORONAL**, a. *kör'ō-nāl* [F. *coronal*—from L. *coronālis*]: belonging to a crown; pertaining to the top of the head; in *anat.*, pronounced *kör-rō'nāl*. **COR'ONAL**, n. [F.—L.]: a crown; a wreath; a garland. **COR'ONATED**, a. *nā-tēd*, crowned. **COR'ONARY**, a. *-nēr-ī*, relating to the crown of the head; encircling the head like a crown; in *anat.*, applied to the arteries which encompass the heart in the manner of a garland, and supply it with blood for its nutrition. **COR'ONA'TION**, n. *-nā shūn*, the act or solemnity of crowning a sovereign; the pomp and assembly accompanying a coronation. **COR'ONER**, n. *-nēr*, formerly, an officer acting for the interest of the crown in Britain in regard to property, etc., in a county—*now* an officer whose duty is to inquire (holding an inquest) into the causes of sudden deaths, etc. **COR'ONET**, n. *-nēt* [dim. from OF. *corone*, a crown]: a crown worn by princes and the nobility—each one, according to rank, having some distinguishing marks; an ornamental head-dress. **COR'ONETED**, a. wearing or entitled to wear a coronet. **CORONIFORM**, a. *kō-rōn'ī-fawrm* [L. *forma*, a shape]: crown-shaped. **CORONULE**, n. *kör'ō-nūl*, the coronet or downy tuft on seeds. *Note.*—The original spelling of 'coroner' seems to have been 'crowner,' and is still pronounced so vulgarly, denoting one who has principally to do with pleas of the *crown*, or those in which the king is concerned. It has been corrupted into 'coroner' so as to adapt its etymology to L. *corona*.

CORONA, in Astronomy: phenomenal light, or halo, that surrounds the sun during a total eclipse. Halley attributed it to a distinct lunar atmosphere, while Delisle claimed that it was caused by a diffraction of the sun's light in passing the moon's sphere; but astronomers are now agreed that neither theory was correct. The C. has three distinguishing features: the chromosphere, or inner C., a veil of brilliant incandescent hydrogen which spreads over the face of the sun as we view it; the red flames, or prominences, caused by the undulating motion of the veil; and the coronal atmosphere, or outer C., supposed to consist of hydrogen of inferior incandescence to that of the veil, or of meteoric particles of a system whose perihelia is in close proximity to the sun.

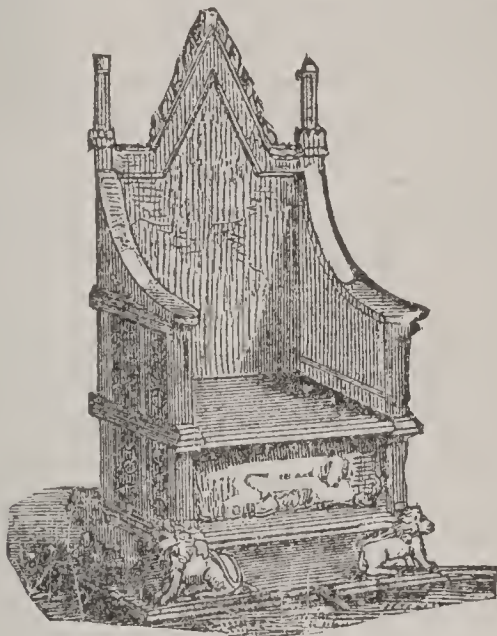
CORONA BOREALIS, *kō-rō'na bōr-ē-ā'līs*: small, bright constellation near Hercules.

CORONACH: better spelling of **CORANACH**, which see.

CORONA'TION [see **CROWN**]: act, event, or ceremony, of crowning. It was, no doubt, as an adaptation of this general custom to a special use, that the practice of placing a crown on the head of a monarch at the commencement of his reign was introduced. The practice is very ancient, as appears from the record that Solomon and Ahaziah were crowned; and there is probably scarcely any country in which it has not been followed in one form or another. Generally, it has been accompanied by what was regarded as the still more solemn rite of anointing with oil, a ceremony which, from the times of the ancient Hebrews to

CORONATION GULF—CORONATION OATH.

our own, has been peculiarly significant of consecration or devotion to the service of God. The term employed for C. in the Saxon chronicle, 'gehalgod,' is hallowed or consecrated; and it would seem that the ceremony as then performed at Kingston-on-Thames, or Winchester, was in all essentials the same as that which now takes place in Westminster Abbey. A copy of the Gospels is still in existence among the Cottonian MSS. in the British Museum, which is believed to be the identical copy on which the



Coronation Chair of the Kings of England, kept in Westminster Abbey:

Beneath the seat is the 'Stone of Destiny,' carried off from Scone by Edward I. 1296.

Saxon kings were sworn. Detailed accounts of many English coronations, from Richard I. onward, have been preserved. The Scottish coronation stone, the *Lia Fail*, or 'Stone of Destiny,' was said by tradition to have been the stone which Jacob used for a pillow, to have been brought to Ireland, and from Tara to Scotland, where it finally found a resting-place at Scone. Skene, in his monograph (1869), asserts it to have been originally quarried from the rocks near Scone. See *Chapters on Coronation* (Lond. 1838).

CORONATION GULF: inlet of the Arctic Ocean, the s.e. part of the landlocked and isle-studded bay that receives the Coppermine river.

CORONATION OATH: form of promise sworn to by monarchs when assuming the crown. The form in which the limitations imposed on the monarch in England were defined by the nation and accepted by him, was probably, from the first, something equivalent to a coronation oath. Until the revolution, however, the C. O., like all the other guarantees for popular liberty, admitted of being tampered with; and there is in existence (Cottonian MS., Tib. E. viii.) a copy of the oath sworn by Henry VIII., interlined and altered with his own hand.

To obviate the possibility of such proceedings, the existing C. O., altered only in consequence of the subsequent

CORONATION OATH.

unions between England and Scotland, and Great Britain and Ireland, was fixed by stat. 1 Will. and Mary, st. 1, c. 6. It is to the following effect, and thus administered The Abp. of Canterbury demands of the king (or queen) 'Sir (or Madam), is your Majesty willing to take the oath?' and on the king answering, 'I am willing,' the archbishop ministereth these questions; and the king, having a copy of the printed Form and Order of the Coronation Service in his hand, answers each question severally, as follows:

Abp. Will you solemnly promise and swear to govern the people of this United Kingdom of Great Britain and Ireland, and the dominions thereto belonging, according to the statutes in parliament agreed on, and the respective laws and customs of the same?

King. I solemnly promise so to do.

Abp. Will you, to your power, cause law and justice, in mercy, to be executed in all your judgments?

King. I will.

Abp. Will you, to the utmost of your power, maintain the laws of God, the true profession of the Gospel, and the Protestant reformed religion, established by law? And will you maintain and preserve inviolably the settlement of the United Church of England and Ireland, and the doctrine, worship discipline, and government thereof, as by law established within England and Ireland, and the territories thereunto belonging? And will you preserve to the bishops and clergy of England and Ireland, and to the churches there committed to their charge, all such rights and privileges as do, or shall appertain unto them, or any of them?

King. All this I promise to do.

The sovereign then goes to the altar, and, laying his hand upon the Gospels, takes the following oath: 'The things which I have heretofore promised, I will perform and keep, so help me God.'

The sovereign then kisses the book, and signs the oath.

The passage in the oath in which the sovereign guarantees the privileges of the Church of England, is framed in conformity with the 'Act for Securing the Church of England as by Law Established,' which is declared to be a fundamental and essential part of the Treaty of Union, and which was inserted accordingly in the act by which the Treaty of Union was finally ratified. The passage in the act which provides for the security of the Church of Scotland was framed in conformity with an 'Overture for an act for security of the Church'—of which a copy will be found in the Appendix to Defoe's *History of the Union*, p. 617. It is to the effect that, 'after the decease of her present Majesty (whom God long preserve), the sovereign succeeding to her in the royal government of this kingdom shall, in all time coming (not at the coronation), at his or her accession to the crown, swear and subscribe that they shall maintain and preserve the foresaid settlement of the true Protestant religion, with the government, worship, and discipline of this Church, as above (that is, by the previously recited act, 1 Will. and Mary. c. 5) established, inviolably.

CORONELLA—COROT.

The security of the Church of Scotland is thus provided for, by what may be called an accession oath, even during the period which must intervene between the accession of the sovereign and his coronation. The oath has not yet been altered to suit the disestablishment of the Irish Church.

CORONEL'LA: genus of non-venomous serpents of the family *Colubridæ*, of a small size, having a somewhat compressed and generally pentagonal body, and rather long conical tail. They inhabit the warm and temperate parts of the world. One species, *C. Lævis*, is found in the centre and south of Europe.

COR'ONER [see **CORONA**]: very ancient officer, in England, at the common law. He is mentioned in a charter of King Athelstan, A.D. 905; and the office, like much of the common law, is acknowledged to be of Saxon origin. The name is derived from the fact that the C. had chiefly to do with pleas of the crown. In this light, the Lord Chief-Justice of the Queen's Bench is the principal C. in the kingdom, and may exercise jurisdiction in that capacity in any part of England. There are, however, particular coroners for every place in England, and in some counties, three or four, or even more. The C., formerly required to be a knight, is now usually a professional man, frequently an attorney or a medical man.

The office of C. is to some extent the only one in England charged with the investigation of crime. Where the C. cannot act, there is no authority to examine witnesses until a suspected person has been actually charged or accused before a magistrate. But even the C.'s duties are very limited; he can inquire only into the causes of violent or sudden death, and into these only when the body has been found. For the duties of coroner in Scotland, see **PROCURATOR-FISCAL**.

In the United States each city or county usually has one or more coroners, who have the duty only of holding inquest on bodies of persons who have died by violence or accident or in a sudden and unaccountable manner. For purposes of inquest, the C. summons a jury, and a medical adviser if necessary. After inquiry into the facts, a verdict is returned, which is of the nature of a recommendation, except in cases in which crime is evidenced: in such cases, the C. can cause arrest and commitment to prison for trial.

CORONET: a little crown: see under **CORONA**.

CORONET, n. *kōr'ō-nēt* [Gr. *korōnē*, a crow]: one of the bones of the fore-foot of the horse.

CORONOID, a. *kōr'ō-noyd* [Gr. *korōnē*, a crow; *eidos*, form]: resembling a crow's beak; in *anat.*, applied to certain processes of bones, so called from their being shaped like the beak of a crow.

COROT, *ko-ro'*, **JEAN BAPTISTE CAMILLE**: landscape painter; 1796-1875; son of a milliner in Paris. He was educated in the Lyceum of Rouen. After studying landscape-painting under Michellon and Victor Bertin, he

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went, 1826, to Italy, where the landscape-painter Aligny exercised an influence on him long traceable in his works. His 'Vue prise à Narni' and 'Campagne de Rome,' sent, 1827, to the Paris Exhibition, displayed a selection and grouping of natural objects at variance with the realistic style then coming into vogue, and though he continued persistently appealing to the visitors of art exhibitions in Paris by 'heroic' and 'idyllic' landscapes, he obtained little recognition for 30 years. Not till he was 60 years old did he come to be a pet of the day, and see his pictures mount up to ten and twenty times their former values. With all their careless and sketchy execution, C.'s pictures evince true artistic qualities. His predilection is for shadowy scenes, for vernal and autumnal vapors, for meadows and bushy trees wrapped in a dull atmosphere. His works, therefore, lose hardly any of their effect in Français's excellent lithographs. Among his pictures in the Luxembourg Museum, of Paris, are the *Dance of the Nymphs*, *Marseilles*, and a *Sunset in the Tyrol*. *Dante and Hagar in the Desert* he bequeathed to the Louvre Gallery. His *Mornings* and *Evenings*, his *Rains* and *Fogs*, scattered in private collections, are to be counted by the hundred. He has had a number of imitators, 'Impressionists,' as they are called, who, however, lose themselves completely in the vague and formless.

CORPORAL, a. *kör'pō-rāl* [L. *corporālis*, bodily—from *corpus*, a body: It. *corporale*: F. *corporel*]: of or relating to the body; pertaining to the animal frame in its proper sense. **COR'PORALLY**, ad. *-lī*, in a corporal or bodily manner. **COR'PORAL**, or **COR'PORA'LE**, n. *-rāl'lē* [because of the belief that the bread and wine are the body and blood of Christ]: the fine linen cloth with which the priest covers what is left of the consecrated elements in the Lord's Supper until the service is concluded: it is called also the *Pall*, and its use is of high antiquity. The name is given also to an oblong piece of fine linen on which the sacred host and chalice are placed during mass.—**SYN.** of 'corporal': bodily; material; corporeal.

CORPORAL. n. *kör'pō-rāl* [corrupted from F. *caporal*—from It. *caporale*, head, principal—from L. *caput*, the head]: in *milit.*, the lowest non-commissioned officer in a company of troops, ranking between a private and a sergeant: when the regiment is formed as a corps, he has no function different from the private soldier. In barracks or camp, however, he exercises certain disciplinary control over the privates. On *shipboard*, a ship's corporal is a petty-officer under the master-at-arms; to aid in teaching the seamen the use of small-arms, to guard against the smuggling of spirits on board, to extinguish the fires and lights at a given signal, and to keep order below at night. **COR'PORALSHIP**, n. the office. **LANCE-CORPORAL**, an asst. corporal, one who performs the duties, and possesses the authority, but does not receive the pay of a corporal. **COR-PORAL-MAJOR**, a non-commissioned officer of the highest rank in a troop of the household cavalry in the Brit. army.

CORPORAL PUNISHMENT—CORPORATION.

CORPORAL PUNISHMENT: see FLOGGING.

CORPORATE, a. *kōr'pō-rāt* [L. *corpōrātus*, made or fashioned into a body—from L. *corpus*, a body, the flesh: It. *corpo*: F. *corps*]: united in a body or community by law, and empowered to transact business as an individual; in *OE.*, united; general. CORPORATELY, ad. -ly. CORPORATENESS, n. CORPORA'TION, n. -rā'shūn, a number of individuals formed into one body and authorized by law to act as one person; the municipal authorities of a town or city.

CORPORA'TION, in Law: a company or body authorized to act as one person, and to perpetuate its existence by the admission of new members. Without such legal authority, the acts of the society would be regarded only as the acts of the individuals, and the property of the society would descend to the heirs of the individual members. In England, but not in the United States, there is known a 'corporation sole,' which consists of one person, and his successors, who are by law invested with the same capacities as a C. aggregate: the sovereign is a C. sole, and so is a bishop and the vicar of a parish; for these, in the eye of the law, never die, and each successive holder of the office takes the property belonging to it, neither by conveyance nor by ordinary succession, but is vested in it by his mere holding of the office.

For particulars as to formation of corporations, see JOINT-STOCK COMPANY. A C. always receives a corporate name, by which it sues and is sued as an individual, and it must possess a common seal, the affixing of which is the only competent way of affixing the signature of the corporation. The majority of the members of a C. are entitled to act in its name, and may, by a by-law, even delegate—except in the case of municipal corporations—the power of acting in its name to a certain number of its members. For the acts of the C., none of its members are personally liable. A C. may hold lands, and may be possessed of chattels, but cannot be either a trustee-proper or an executor.

Corporations are divided into public and private: for the public, which are ordinarily municipal or governmental, see MUNICIPALITY. The private may be divided into civil and eleemosynary. Private civil corporations include some universities, colleges of physicians and surgeons, learned societies, and many trading companies incorporated. Eleemosynary corporations are for the administration of funds for charitable and pious purposes, such as hospitals, some colleges, etc. Eleemosynary corporations may be 'visited' or inspected with legal superintendence for securing their main object, by the founder and his heirs, or such persons as the founder appointed to be visitors; and in default of such persons, or of the founder's heirs, the courts may in certain cases act as visitors. Private corporations cannot be dissolved at the mere will of the creative power, but only for cause shown; such as misdirection of funds, or non-fulfilment of contract. The laws of the

CORPOREAL—CORPS D'ARMÉE.

different States vary concerning corporations, as to details. A C., unless prohibited by special enactment, may act beyond the limits of the State in which it is located. The property of a C. is subject to control by the U. S. Court of Bankruptcy.

A C. may be dissolved by the death of all its members, or of such number as leaves not enough to make new elections in the way the charter requires; by forfeiture of the charter, through breach of its conditions; by surrender of the charter; or by legislative action. In all such cases, the lands of the C. revert to their several donors, and the debts due by or to the C. are extinguished.

For public governmental corporations, see MUNICIPALITY: for private trading corporations, see BANK: JOINT-STOCK COMPANY: PARTNERSHIP.

As to public corporations in Scotland, see BURGH: TOWN COUNCIL: FRIENDLY SOCIETIES.

CORPOREAL, a. *kör-pō-rĭ-äl* [L. *corpo'rēūs*, composed of flesh—from *corpus*, a body, *corpōră*, bodies]: having a body or substance; material, as opposed to spiritual or immaterial. **CORPO'REALLY**, ad. *-lĭ*. **CORPO'REAL'ITY**, n. *-ĭ-tĭ*, state of being a body; opposed to spirituality. **CORPO'REALISM**, n. *-izm*, corporeal character; the belief and teachings of corporealists. **CORPO'REALIST**, n. *-äl-ĭst*, one who denies the existence of spirit as separate from body. **COR'PORE'ITY**, n. *-pō-rē'ĭ-tĭ*, bodily substance; state of having a body.

CORPOSANT, n. *kor'pō-zănt* [Sp. *cuervo*, a body; *santo*, holy]: a luminous electric body often observed on dark stormy nights skipping about the masts and rigging of a ship; the same phenomenon has been seen on land.

CORPS, n. *kör*, also **CORPS**, n. plu. but pronounced *körz* [F. *corps*, a body—from L. *corpus*, a body: It. *corpo*]: a body of soldiers; any division of an army. **CORPS DIPLOMATIC**, n. the whole body of ministers or diplomatists at any court. **CORPS-PRESENT** a funeral gift to the church, in recompense, as was pretended, for anything that had been omitted or withheld by the deceased. **CORPS-VOLANT**, [F.—*lit*, a flying body]: a body of soldiers intended for rapid movement. **CORPSE**, n. *körps*—in *poetry*, **CORSE**, n. *körs*, the dead body of a human being. **CORPSE-COOLER**, a temporary coffin or shell into which a body is laid to delay the natural decay by exposure to an artificially cooled atmosphere. **CORSELET**, or **CORSLET**, n. *körs'let* [F.]: light armor for the body: such front body-armor for pikemen was made usually of leather, and was pistol-proof. **CORSET**, n. *kör'set* [F.]: stays; a quilted waistcoat for women.

CORPS D'ARMÉE, *kör dar-mĕ*, in the military system of the greater continental European states: an organization of the forces in time of peace. The whole military strength is divided into several corps, each complete in itself as an army, with everything needful for service, staff and artillery park included. The English army is now distributed into 15 army corps, stationed in as many territorial centres. The French army had, in 1886, 24 *corps d'armée*; which have

CORPSE—CORPUS CHRISTI.

been increased in strength by the recent military re-organization. Germany had in the same year 18 *corps d'armée*. In the Austrian service, the normal number of *corps d'armée* is 13. The military strength of Russia, as finally settled, 1876, is distributed over 14 military districts. The term is not in use in the U. S., in time of peace: the troops are assigned in a few great territorial divisions, known by geographical names.

CORPSE: see under CORPS.

CORPSE'-CANDLE: see CANDLE.

CORPULENCE, n. *kõr'pũ-lěns*, or COR'PULENCY, n. *-lěn-sĩ* [F. *corpulence*—from L. *corpulentĩa*, corpulenee—from *corpus*, a body]: bulkiness of body; excessive fatness; fleshiness. COR'PULENT, a. *-lěnt* [F. *corpulent*, corpulent, gross—from L. *corpulentus*, fat]: fleshy; bulky; fat. COR'PULENTLY, ad. *-lĩ*.—SYN. of 'corpulent': stout; fat; lusty; brawny; robust; large; puffy; obese.

CORPUS, n. *kõr'pũs*, CORPORA, n. plu. *kõr'põ-rã* [L. *corpus*, body, *corpõrã*, bodies]: matter or body of whatever kind. CORPUS CHRISTI, *kõr'pũs krĩs'tĩ* [L., body of Christ], or FEAST OF THE BLESSED SACRAMENT: the most splendid festival of the Rom. Cath. Church; instituted 1264, in honor of the Consecrated Host in the Eucharist, and with a view to its adoration, by Pope Urban IV., who appointed for its celebration, Thursday, the 11th day after Whitsunday or Pentecost, and who promised to all the penitent who took part in it, indulgence for a period of 40-100 days. The festival is distinguished chiefly by magnificent processions. In France it is known as the *Fête Dieu*.

CORPUS CHRISTI, *kawr'pũs krĩs'tĩ*, or *tě*, or BEN'ET COLLEGE, Cambridge: founded by two guilds or fraternities of townspeople—the guild of Corpus Christi, who had their prayers at St. Benedict Church; and the guild of the Blessed Virgin, who prayed at St. Mary's. These were united, 1352, and a small college erected by them. Abp. Parker added largely to the endowments of this college, and bequeathed to it his valuable manuscripts, among which are the only authentic manuscript copies of the Thirty-nine Articles of the Church of England. Of the 12 fellows, all except 4 must take holy orders. There are 31 scholarships, some of considerable value, given to the students who most distinguish themselves at the annual examinations. Among the eminent men of this college were Hugh Latimer, Abps. Parker and Tennison, Fletcher the dramatist, and Gough the antiquary.

CORPUS CHRISTI, Oxford: college founded, 1516, by Richard Fox, Bp. of Winchester, under a license from King Henry VIII. The statutes were issued 1517. The foundation consisted of 20 fellows and 20 scholars; of whom the fellows were to be elected from the scholars, while the scholars were to be elected from certain specified counties. Two peculiarities marked this foundation. First, the usual rules of life and discipline were enforced with peculiar severity; and, second, the object of the college was

CORPUSCLE—CORPUS DELICTI.

expressly connected with the studies of the age. Classical literature was for the first time distinctly mentioned. The subjects of the lectures were enjoined to be, not the old routine of divinity and the two philosophies, but divinity, humanity, and Greek. Incessant industry in these pursuits was inculcated by the founder, and the fellows were even forbidden to accept the proctorship, lest the avocations of that office should interfere with their proper duties. The object and the stringency of these regulations called forth the celebrated encomium of Erasmus, that what Colossus was to Rhodes, what the Mausoleum was to Caria, that C. C. College would be to the kingdom of Great Britain. This prediction has hardly been fulfilled. The rules of the founder have been gradually set aside by acts of parliament, by custom, and by injunctions of the visitor. Of the three university lectureships contemplated by the founder, one was never founded at all, and the other two were merged in the college fellowships and tutorships. And, lastly, the college has suffered greatly from the severe restrictions imposed by statute upon the elections to fellowships. In virtue of the powers conferred by 17 and 18 Vict. c. 81, important changes have been effected by the college working in harmony with the commissioners. Both fellows and scholars are now elected without any restrictions as to place of birth. The fellowships are still 20 in number; value, rather more than £300 a year. The college is now one of considerable eminence. Two of the fellowships are permanently attached to the two professorships of Latin and Jurisprudence, the professors being admitted honorary fellows of Corpus, and each receiving from its revenues a sum of £600 a year. The scholarships are 24 in number, tenable for five years, and of the annual value of £80, with rooms rent free; besides seven exhibitions, recently instituted, to be competed for annually by the commoners of the college. There are 22 benefices in the gift of this college; and in 1881, there were about 280 names on the college books.

CORPUSCLE, n. *kör-pūs'kl*, or **CORPUSCULE**, n. *kör-pūs'kul* [L. *corpusculum*, a little body, an atom, a particle—from *corpus*, a body: It. *corpusculo*; F. *corpuscule*, a minute body]: a small body; a particle. **CORPUS'ULAR**, a. *pūs'kū-lēr*, relating to small bodies or particles. **CORPUS'ULARIAN**, a. *-lūr'ri-ăn*, material; physical; atomic: N. an advocate for the atomic or material philosophy; a materialist. **CORPUSCULATED**, a. *kör-pūs'kū-lā-tēd*, applied to fluids which, like the blood, contain floating solid particles or corpuscles.

CORPUSCLES, BLOOD: see **BLOOD**.

CORPUS'ULAR ACTION—and **THEORY**: see **ATOM**: **ATOMIC THEORY**.

CORPUS DELICTI, in Criminal Law: the body or substance of the charge—term used especially in Scotland. Before a conviction can take place, the fact libelled must be proved—e.g., before a man can be convicted of murder, it must be clearly made out that there was a murder;

CORPUS DOCTRINÆ—CORRECTION.

and it is this fact that is called the C. D.: see CRIMINAL LAW.

CORPUS DOCTRINÆ, *dōk-trī'nē*: collection of authoritative doctrinal standards in the Prot. churches of Germany, superseded by the *Formula Concordæ*, Form of Concord.

CORPUS JURIS: see LAW.

CORPUS JURIS CANONICI: see CANON LAW.

CORRACLE: see CORACLE.

CORRAL, n. *kōr-rāl'* [Sp.]: in *S. Amer.*, an inclosure for cattle; a kraal: V. to put within an inclosure; to confine. CORRAL'LING, imp. CORRALLED', pp. -rāld'.

CORREA DA SERRA, *kor-rā'á dā sēr'á*, JOSÉ FRANCESCO: 1750–1823, Sep. 11; b. Serpa, Portugal: politician and botanist. He was educated and took priest's orders in Rome; founded and became perpetual sec. of the Portuguese Acad. of Sciences at Lisbon 1777; fled to France after trouble with the Inquisition 1789, and to England for protecting a Girondist; became member of the Royal Soc. and sec. of legation 1797; removed to Paris 1802, and to the United States 1813; was prof. of botany in Philadelphia 1814, and Portuguese minister 1816–20, when he was recalled, appointed member of the financial council in the constitutional govt. and elected to the cortes.

CORRECT, v. *kōr-rēkt'* [F. *correct*—from L. *correctus*, improved, amended—from *con*, *rectus*, set right]: to amend; to make right; to punish: ADJ. free from faults; right; conformable, to truth; accurate. CORRECT'ING, imp. CORRECT'ED, pp. CORREC'TION, n. -rēk'shūn [F.—L.]: the act of correcting; amendment; punishment. CORREC'TIONAL, a. -āl, having a tendency to correct. CORREC'TIVE, a. -tīv, having power to correct: N. that which corrects. CORRECT'LY, ad. -lī, accurately; exactly; not disfigured by faults. CORRECT'NESS, n. -rēkt'nēs, accuracy; exactness; conformity to established rules or usages. CORREC'TOR, n. -tēr, one who —SYN. of 'correct, a.': exact; accurate; precise; nice; particular, punctual; regular; faultless;—of 'correct, v.': to reform; mend; rectify; chasten; chastise; purify; reprove; discipline; improve.

CORREC'TION. HOUSE OF: prison for reformation of petty offenders: see PRISON: REFORMATORY SCHOOLS.

CORRECTION OF THE PRESS.

CORRECTION OF THE PRESS: one of the most important of the many operations that every piece of printed matter must undergo before it is put into the hands of the reading public; and in every considerable printing establishment, it forms a special department executed by one or more functionaries, technically called 'readers.' The immediate object of a corrector of the press, or 'reader,' is to observe and mark every error and oversight of the compositor, with a view to make the printed sheet a perfect copy of the author's manuscript. This is on the supposition that the manuscript itself is quite correct, which is seldom the case; and therefore the duty of a good reader extends to seeing that there are no inconsistencies in orthography, punctuation, abbreviations, etc., and in many cases to the verification of quotations, dates, and proper names. The duty of securing consistency in spelling and punctuation is especially important in works on which several writers are employed, such as newspapers and encyclopedias. The corrector has also to direct his attention to the numbering of the pages; to the arrangement of chapters, paragraphs, and notes; to running titles, etc. It is part of his business to observe the mechanical defects of the work—defective types, turned letters, inequalities of spacing between words, sentences, and lines, crooked lines, and to secure symmetry in verses, tables, mathematical operations, and such like. In almost all cases, a first and second proof is taken, and in difficult works, such as those in foreign languages, tables, etc., even more. Lastly follows the revision, in which little more is done than seeing that the compositor has made all the corrections marked on the last proof. It is usual for the writer or author to reserve the correction of the second proof for himself.

It is convenient to take the proofs on long slips (galley slips) before division into pages. The corrections to be made are marked on the margin; and for this purpose an established set of signs or short-hand is used, understood by all printers, of which the annexed specimen of a proof is an illustration.

The thankless and monotonous business of a corrector or reader is more difficult than the uninitiated would believe. It requires extensive and varied knowledge, accurate acquaintance with the art of typography, and above all, a peculiar sharpness of eye, which, without losing the sense and connection of the whole, takes in at the same time each separate word and letter. After the invention of printing, the C. of the P. was executed by the publisher himself, or at least was intrusted to men of ability and learning, and often men of name. Robert Stephen (1526–59), and Plantin (1555–89), had recourse to publicity, hung out the successive sheets of their publications, and promised a reward to any one who would point out a typographical error. Some editions of particular works are held in high estimation from the care with which the press had been corrected. Among the most famous are those from the press of Aldus Manutius in Venice, of which we may mention the works of Petrarch (1514), corrected by

'To rule the nations with imperial
 sway, to impose terms of peace, to
 spare the humbled, and to crush the
 proud, resigning it to others to de-
 scribe the courses of the heavens, and
 explain the rising stars; this, to use
 the words of the poet of the Æneid
 in the apostrophe of Anchises to
 Fabius in the Shades, was regarded
 as the proper province of a Roman.
 The genius of the people was even-
 more adverse to the cultivation of the
 physical sciences than that, the Euro-
 pean Greeks, and seen we have that
 the latter left experimental philosophy
 chiefly in the hands of the Asian and
 African colonists. The elegant litera-
 ture and metaphysical speculations
 of Athens, her histories, dramas, epics,
 and orations, had a numerous host of
 admirers in Italy, but a feeling of
 indifference was displayed to the
 practical science of Alexandria. [This
 repugnance of the Roman mind at
 home to mathematics and physics, extending
 from the Atlantic to the
 Indian Ocean, from Northern Britain
 to the cataracts of the Nile, annihila-
 ted in a measure all pure sciences
 in the conquered districts where they
 had had been pursued, and prohibited
 attention to them in the mother
 country.

Long, indeed, after the age of

- ¹ a
- ² tr.
- ³ #
- ⁴ |
- ⁵ *Italic.*
- ⁶ ,/
- ⁵ *S. caps.*
- ⁷ stet
- ⁸ 9
- ⁹ of
- ⁶ ;/ ² tr.
- ¹⁰ wf.
- ⁶ ○
- ¹¹ δ
- ² tr.
- ¹² *Roman.*
- ¹³ *New line.*
- ¹⁴ *See below:*
- ³ # ¹⁵ ○
- ¹⁶ the
- ¹⁷
- ¹¹ δ
- ¹⁸ -/
- ¹⁹ *Run on.*

CORREGGIO.

Ptolemy, the school in connection with Caps
which he flourished, remained in
existence; &c. 20 ✓

*^ together with the prevalence of its
military despotism abroad,*

1. A wrong letter. A line is drawn through the wrong letter, and the proper one written in the margin. After every mark of correction a line / should be drawn, to prevent its being confounded with any other in the same line. 2. A word or letter to be transposed. Where letters only are to be transposed, it is better to strike them out, and write them in their proper sequence in the margin, like a correction. 3. A *space* wanted. This mark is also used when the spacing is insufficient. 4. A space or quadrat *sticking up*. 5. Alteration of type. One line is drawn under the word for *italics*, two for SMALL CAPITALS, three for CAPITALS. 6. Correction or insertion of stops (*points*). 7. A word struck out, and afterward approved of (Lat. *stet*, let it stand). 8. A turned letter. 9. An omission. 10. A letter of a wrong fount. 11. A word or letter to be deleted. 12. Alteration of type. 13. A new paragraph. This should be avoided as much as possible, as it causes great trouble and expense. 14. Insertion of a sentence. 15. A *space* to be removed or diminished. 16. A wrong word. This is struck out, and the proper one written in the margin. 17. When letters or lines do not stand even. 18. Mark for a hyphen or rule. 19. No new paragraph. This is also troublesome and expensive. 20. The manner in which the apostrophe, inverted commas, the star, and other references, and superior letters and figures, are marked.

Pietro Bembo; Aristotle (1551-53, 6 vols.), corrected by the famous Greek scholar, J. B. Camotius; Lactantius (1515), and Suetonius (1516), corrected by J. B. Egnatius; Plato (1513), Athenæus (1514), and Gregory Nazianzene (1516), corrected by Marcus Massurus. The first edition of Homer was printed by Nerlius in Florence (1484, 2 vols.), corrected by Demetr. Chalkondylas. Robert Stephen of Paris himself corrected the numerous works that issued from his press; and Erasmus had a great name as a corrector.

CORREGGIO, *kõr-rěd'jõ*: town of n. Italy, midway between Parma and Modena: now called Reggio. It is the birthplace of the painter surnamed Correggio (q.v.). Pop. 2,700.

CORREG'GIO, ANTONIO ALLEGRI: celebrated Italian painter, named from the place of his birth: 1493 (or 4)-1534, Mar. 5; b. Correggio (now Reggio); son of a tradesman of some property. His father had him carefully educated, and instructed in the rudiments of art, by an uncle, Lorenzo Allegri, a painter of small merit. How much he owed to his teacher is uncertain. He was the first among the moderns who displayed that grace and general beauty and softness of effect, the combined excellences of design and color with taste and expression, for which he is still unrivalled. His chiaroscuro is perfect. Almost before he had seen the great masters, he became a master in a style all his own; and was the founder, or rather his imitators were founders for him, of what is called by some the Lombard, by others, the Parma school of painting. On

first beholding, at Bologna, Raphael's glorious picture of St. Cecilia, he is said to have exclaimed: 'Anch' io sono pittore' (I, too, am a painter). But this story is doubted.

There was long a tradition that C. lived in poverty, unaided but by his own genius; and it is remarkable that Vasari, who lived at the same time, in his *Lives of the Painters*, records only vague rumors regarding C.'s life; and that Annibale Caracci, 50 years after his death, writes: 'I rage and weep to think of the fate of this poor Antonio: so great a man—if, indeed, he were not rather an angel in the flesh.' This belief, so prevalent in his own day, now refuted by recent researches, proves how retired and simple must have been his life. That he was in high estimation in his later days, is proved by his signature affixed to the deed of marriage of the Lord of Correggio, 1533.

At the age of 18, C. painted an altar-piece, the *Madonna di San Francesco*, now in the Dresden Gallery, which is rich in pictures by C.; the most famous of which are the *Notte* (Night), lighted only by the celestial splendor beaming from the head of the infant Savior—Vasari calls it 'quite wonderful'—and the famous *Magdalen* one of the most admired pictures in the world. For the cupola of the church San Giovanni at Parma, he painted an *Ascension* in fresco, and over the high-altar a *Coronation of the Virgin*, now known only through copies and engravings. He also decorated elaborately in fresco the cathedral there, for which he received 1,000 ducats, worth about \$17,500. In the Louvre are two pictures—the *Marriage of St. Catharine*, and the *Antiope*; in the Florence Gallery, three—one the *Madonna on her Knees Adoring the Infant*; in the Naples Gallery, three—one a lovely Madonna, called, from its oriental character, *La Zingarella* (the Gipsy), said to be a likeness of C.'s wife; at Vienna, two; at Berlin, three; at Parma, five—the most celebrated is the *St. Jerome*; and in the British National Gallery, a Madonna, known as the *Vierge au Panier*, the *Education of Cupid*, and the famous *Ecce Homo*, purchased by the British government for £11,500.

CORREGIDOR, n. *kôr-rěj'î-dôr'* [Sp.]: in Spain, principal magistrate of a town. He is appointed by the king. The C. is also a Portuguese functionary, but, unlike his Spanish brother, has not the double power of governing and administering justice, but only the latter.

CORREGIDOR; a small island of the Philippine archipelago at the entrance to Manila Bay.

CORRELATE, n. *kôr'rě-lāt'* [L. *con*, together; *relātus*, carried or brought back]: one that stands in a reciprocal relation, as father and son: V. to stand in a reciprocal relation, as father and son; to relate or refer to mutually. COR'RELA'TING, imp. COR'RELA'TED, pp. COR'RELA'TION, n. *-lā'shŭn* [F.—L.]: mutual relation. CORREL'ATIVE, a. *-rěl'ă-tiv* [F. *corrélatif*]: having a reciprocal relation: N. that which has a reciprocal relation; relationship or dependence, as father to son, light to darkness; in *gram.*, the word or words to which a pronoun refers. CORREL'ATIVELY, ad. *-lĭ*. CORREL'ATIVENESS, n. *-tĭv-nēs*. CORRELATION OF FORCES, in

CORRELATION OF FORCES—CORRIDOR.

phys., the mutual relationship of the various forces in constant operation around us, all mutually convertible into each other.

CORRELATION OF PHYSICAL FORCES: see FORCE.

CORRESPOND, *v.* *kôr'rě-spōnd'* [F. *correspondre*—from mid L. *correspondēre*—from L. *con*, *respondēre*, to answer or promise—*lit.*, to answer or promise to one another]: to suit; to agree; to be proportionate; to hold intercourse by letter. CORRESPONDING, *imp.* CORRESPONDED, *pp.* CORRESPONDENCE, *n.* *kôr'rě-spōn'děns* [F. *correspondance*]: suitability; fitness; intercourse by letters or otherwise; the letters so sent. CORRESPONDENT, *a.* *-děnt*, adapted; suitable: *N.* one who holds intercourse by letters. CORRESPONDENTLY, *ad.* *-lě*. CORRESPONDINGLY, *ad.* *-děng-lě*. CORRESPONSIVE, *a.* *-siv*, answerable; adapted to anything.—*SYN.* of 'correspond': to match; tally; fit; answer; suit; write; address.

CORRÈZE, *kôr-răz'*: dept. of France, formed out of part of the old province of Limousin, and taking its name from an affluent of the Vezère—the Corrèze, which traverses the dept. from n.e. to s.w. C. extends between lat. 44° 55' and 45° 40' N., and long. 1° 13' and 2° 22' E.; nearly 2,300 sq. m. The chief rivers are the Dordogne, the Vezère, and the Corrèze. The surface of the dept. is mountainous, especially in the n. and e., where it is broken by offsets from the Auvergne mountains, which, in some parts attain a height of 4,000 ft. above the sea. The lower slopes are clad with forests, but the district is in general sterile. In the s. and s.w., however, the soil yields wheat, oats, barley, rye, maize, etc. Wine also is produced, but of poor quality. The rural population are poor, badly housed and fed; their food consisting, to a great extent, of chestnuts, which are very abundant. Minerals, particularly coal, iron, lead, alabaster, and granite of various colors, are found in considerable quantities. The dept. is divided into the three arrondissements of Tulle, Brive, and Ussel. Tulle is chief town.—Pop. of C. (1881) 311,478; (1901) 318,422.

CORRIB, LOUGH, *lŏch kŏr'ib*: lake, third in size in Ireland, in the north of Galway. It is of very irregular shape, 27 m. long from n.w. to s.e., and 1 to 6 broad; 68 sq. m. It is between 28 and 31 ft. above sea-level. From its s. end, 4 m. n. of Galway, it discharges its surplus waters by Galway River into Galway Bay. It receives the waters of Lough Mask, at its n. end, through the Pigeon Hole and other caves, as well as those of the Clare and other smaller rivers. On its sides are metamorphic rocks, carboniferous limestone, and marble. Near it are many monumental heaps and so-called Druid circles. It contains many islets, and to the west are mountains 3,000 ft. high.

CORRIDOR, *n.* *kôr'ri-dŏr* [F. *corridor*—from It. *corridore*: Sp. *corredor*, a runner, a gallery: comp. Gael. *coire*, a circle; *dorus*, a door]: a gallery or a passage in a mansion from which many doors open into various apartments; a

gallery round a building; a covered way; a long passage or aisle.

CORRIE, or **CORRI**, n. *kõr'ri* [Gael. *coire*, a caldron, a pot]: in *Scot.*, a hollow mountain recess, open on one side only.

CORRIE, *kõr'ri*, **DANIEL**: 1777–1837, Feb. 5; b. England: Bp. of Madras. He went to India as a missionary of the Established Church, 1806, and was associated with Buchanan, Heber, Martyn, and Turner. As soon as he became proficient in the language, he began translating Sellon's abridgment of the Scriptures into Hindostanee, at the same time translating and publishing the prayers and homilies of the church. He also compiled outlines of ancient history, for the use of schools in India. He was appointed archdeacon of Calcutta 1823, and consecrated bp. of Madras 1835.

CORRIENTÉS, *kõr-rě-ěn'tės* [in English, *currents*]: province of the Argentine Republic, between Entre Rios on the s., and the republic of Paraguay on the n., having the Parana on the n. and w.; lat. 27° —30° s., and long. 57°—59° w.; about 60,000, sq. m. The north is undulating and fertile; and the south, besides being generally swampy, is partly covered by Lake Thara. The products are maize, cotton, sugar, indigo, tobacco, and a species of silk. Pop. (1882) 204,000; (1892) 216,000; (1900) 277,041.

CORRIENTES: city, cap. of the state of C. in the Argentine Republic; lat. 27° 27' s., and long. 58° 46' w., near the confluence of the Parana and the Paraguay. It takes its name from the rapids, which are said to be as decidedly a turning-point in the climate of the country as in the navigation of the river. Pop. (1901) 17,000.

C. has various other applications in Spanish America, indicating several capes in Cuba, Mexico, and New Granada.

CORRIEVREKIN, *kõr-rě-vřěk'kěn*, or **CORRYBRECHTAN**, *kõr-rě-brěch'tan*, or **GULF OF BRECHAN**: whirlpool or dangerous passage a mile broad, off the w. coast of Argyleshire, Scotland, in the strait between Scarba and Jura isles. It is occasioned by the meeting of tides (often running 12 or 14 m. an hour) from the n. and w., in the narrow passage into the Sound of Jura, round a pyramidal rock, which rises with rapid slope from a considerable depth to some fathoms from the surface. This rock forces the water in various directions. In stormy weather, at flow-tide, vast openings form in the water, immense bodies of water tumble headlong as over a precipice, then rebounding from the abyss, dash together and rise in spray to a great height. The noise is heard over the the isles around. The water is smooth for half an hour in slack-water.

CORRIGENDA, n. plu. *kõr'ri-jěn'dă* [L.—from *corrigo*, I set right]: things to be corrected.

CORRIGIBLE, a. *kõr'ri-jě-bl* [F. *corrigible*—from L. *corrigerě*, to set right, to correct]: that may be corrected or reformed; capable or deserving of punishment.

CORRIVAL, n. *kõr-rĩ'vål* [*con* and *rival*]: in *OE.*, a rival; a competitor: V. to vie with; to emulate.

CORROBORATE, v. *kõr-rõb'õ-råt* [L. *corrobõrātus*, strengthened very much—from *con*, *robur*, strength: It. *corroborare*: F. *corroborer*]: to strengthen; to confirm.

CORROBORATING, imp. **CORROBORATED**, pp. **CORROBORANT**, a. *-rānt*, having the power of giving strength: N. in *med.*, that which gives strength to the body when weak. **CORROBORATION**, n. *-rā'shūn* [F.—L]: the act of strengthening or confirming. **CORROBORATIVE**, a. *-rā-tīv*, strengthening; having the power to confirm.

CORRODE, v. *kõr-rõd'* [F. *corroder*—from L. *corrõdẽrẽ*, to gnaw to pieces—from *con*, *rodẽrẽ*, to gnaw: It. *corrodere*]: to eat away by degress; to prey upon; to consume. **CORRODING**, imp.: **ADJ.** eating or wearing away; gnawing. **CORRODED**, pp. **CORRODENT**, a. *-dẽnt*, having the power of corroding: N. that which eats away. **CORRODIBLE**, a. *-dĩ-bl*, that may be eaten away. **CORRODOBILITY**, n. *-bĩl'ĩ-tĩ*. **CORRODIVE**, a. *-rõ'siv* [F. *corrosif*—from L. *corrosivus*—from *con*, *rõsus*, gnawed]: consuming; wearing away; fretting; vexing: N. that which corrodes. **CORRODIVELY**, ad. *-lĩ*. **CORRODIVENESS**, n. the quality of corroding or eating away. **CORROSION**, n. *-zhūn* [F.—L.]: the act of eating away by degrees. **CORROSIBILITY**, n. *-sĩ-bĩl'ĩ-tĩ*. **CORROSIVE** **SUBLIMATE**, *-sũb'li-mūt*, popular name for Bichloride of Mercury (q.v.), a virulent poison.—**SYN.** of 'corrode': to gnaw; waste; wear away; rust; canker; consume; impair.

CORRUGATE, v. *kõr'rũ-gåt* [L. *corrũgātus*, made full of wrinkles—from *con*, *rũga*, a wrinkle: It. *corrugare*]: to wrinkle or purse up; to furrow or form into ridges, as sheets of metal: **ADJ.** in *bot.*, shaped into wrinkles or folds; wrinkled. **CORRUGATING**, imp. **CORRUGATED**, pp.: **ADJ.** covered with folds; having a crumpled and uneven surface. **CORRUGANT**, a. having the power of contracting into wrinkles. **CORRUGATION**, n. *-gā'shūn*, contraction into wrinkles. **CORRUGATOR**, n. *-tẽr*, he who cr that which.

CORRUGATED IRON: sheet-iron formed into ridges, thus gaining great additional strength or stiffness—like a frill of linen. The method is applied to various metals; especially to 'galvanized iron,' an improper name for sheet-iron coated with zinc.

The sheets of metal are passed between rollers, the surfaces of which are formed into rounded grooves and ridges, the ridges of one roller filling the grooves of the other. The metal, in passing between these, is compressed into a waving form, or corrugated. It will be easily understood that a piece of sheet-metal, of given size and thickness, if rolled up to form a tube, will resist a much greater bending strain than when flat. Now the curves of the corrugation may be regarded as a series of half-tubes, and the additional strength is due to the application of the same principle: see **STRENGTH OF MATERIALS**. Walls and roofs of temporary buildings are now extensively made of this material. Railway sheds, emigrants' houses, temporary churches, store-

CORRUPT—CORSAC.

rooms, and sheds for dockyards, etc., are among common applications. Mr. Francis, of New York, has applied the principle to the construction of light boats, the strength of which, and their power of resisting violent blows, such as boats are subject to on landing through a surge, is said to be remarkably great. On this account, they are proposed to be used for life-boats, ships' boats, etc. They are made by stamping the metal in enormous dies, of the shape and size of the boat, and grooved for the required corrugations. Small boats thus constructed require no internal bracings, the requisite rigidity and strength being given entirely by the corrugations.

CORRUPT, *v. kŏr-rŭpt'* [L. *corruptus*, corrupted—from *con*, *ruptus*, broken]: to turn from a sound to a putrid state; to taint; to deprave; to pervert; to bribe: **ADJ.** unsound; tainted; vitiated; not genuine. **CORRUPT'ING**, *imp.* **CORRUPT'ED**, *pp.*: **ADJ.** made or become corrupt. **CORRUPT'ER**, *n.* that which or one who. **CORRUPT'IBLE**, *a. -tĭ-bl* [F.—L.]: that may be corrupted: **N.** in *Scrip.*, the human body. **CORRUPT'IBLY**, *ad. -blĭ*. **CORRUPT'IBIL'ITY**, *n. -bil'ĭ-tĭ*, possibility of being corrupted. **CORRUPT'IBLE-NESS**, *n. -bl-nĕs*. **CORRUPT'ION**, *n. -shŭn*, putrescence; wickedness; perversion; depravity; bribery; debasement. **CORRUPT'IVE**, *a. -tiv*, tending to corrupt or vitiate. **CORRUPT'LY**, *ad. -rŭpt'li*. **CORRUPT'LESS**, *a.* that cannot corrupt or decay. **CORRUPT'NESS**, *n.* state of being corrupt.—**SYN.** of 'corrupt, *v.*': to contaminate; defile; pollute; putrefy; vitiate; deprave; debase; entice; rot; spoil; adulterate; destroy; debauch; infect.

CORRUPT'ION OF BLOOD: see **ATTAINDER: TREASON**.

CORRUPT'ION OF JUDGES: see **JUDGE**.

CORRUPT PRACTICES ACT: in England, laws relating to bribery, treating, and undue influence at elections of members of parliament. Legislation on this very troublesome subject has been attempted in almost every session of parliament: see **PARLIAMENT**.

CORRY, *kŏr'rĭ*: city, Erie co., Penn., at the junction of the Philadelphia and Erie and the N. Y. Penn. and Ohio railroads, 37 m. s.e. of Erie; and the terminus of the Oil Creek and Alleghany and the Buffalo Pittsburgh and C. railroads. Its settlement was due to the discovery of petroleum, and the first building was erected 1861, Aug. The town was incorporated as a city 1866. It has 9 churches, a high school, opera house, library, park, 2 national and one savings banks, one daily and 2 weekly newspapers, a large oil refinery, tanneries, a blast furnace, and manufactories of stationary engines, furniture, mowers, and reapers, barrels, etc. Pop. (1880) 5,277; (1900) 5,369.

CORSAC, *kawr'sak* (*Canis* or *Cynalopex Corsac*): animal of the dog family (*Canidæ*), found in the deserts of Tartary and in India. In size, it resembles a small fox, but is more slender in body and limbs; it has long and pointed ears, a bushy tail, and is of a reddish or yellowish color; the form of the head resembles that of the fox. It lives in large

CORSAIR.

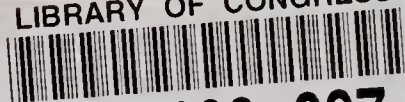
communities, burrows, prowls during the day, and not during the night like foxes, and is believed to feed chiefly on birds and their eggs, but not to refuse even insect food. There are several Asiatic species closely allied to this.

CORSAIR, n. *kär'sär* [F. *corsaire*—from Prov. *corsari*—from It. *corsaro*, a pirate—from Sp. *corsa*, a cruise or course at sea: L. *cursus*, a voyage: comp. Gael. *corsair*, a coasting vessel; *corsa*, the coast—*lit.*, one who makes the course or cruise around a coast]: one who scours the sea in an armed ship for the purpose of plundering merchant vessels; a robber on the sea; a pirate; applied especially to the pirates who in former times sailed from Algiers, Tunis, Tripoli, and the ports of Morocco, and were the terror of merchantmen in the Mediterranean and the neighboring parts of the Atlantic.





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